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1988 REVISION

COMPREHENSIVE PLAN

MIDDLESEX COUNTY

Prepared By:

Middlesex County Planning Commission

Adopted January 10, 1989

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Coastal Zone Management Program

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PART I  
INTRODUCTION

Middlesex County is located on Virginia's Middle Peninsula. The County is bounded by the Rappahannock River to the north, by the Chesapeake Bay to the east, by the Piankatank River and the Dragon Run to the southwest, and by Essex County to the northwest. The County has a land area of 132 square miles or 84,480 acres.

Settlement of the area began around 1640 with the County being officially formed in 1669 from a part of Lancaster County. Urbanna was established in 1680 serving initially as a port for shipping agricultural products and later as the County's commercial and governmental center. Urbanna was incorporated on April 2, 1902, comprising an area of .49 square miles. The Town of Urbanna is the County's only incorporated area, while Saluda serves as the County seat.

Over the years, Middlesex has retained a rural image with farming, forestry, fin fishing, and shell fishing as the strongest and principal components of the economic base. The factors which once served to isolate the County from urban areas have changed either in a physical nature or from a psychological point of view. The geographical location of the County combined with a lack of adequate roads enabled the retention of a rural character, however, highways have improved dramatically and air transportation facilities have been upgraded and provide further access to the County. Nationwide economic conditions have combined to produce increased disposable income and, subsequently, greater leisure time. The increased importance assigned to recreation by the general population has made tourism a growth industry. The urban population has increasingly viewed rural areas as desirable places in which to live. This desire manifested itself in the form of vacation and retirement homes; however, there appears to be a definite trend in the number of individuals willing to commute to employment centers such as Richmond, Williamsburg, and the Tidewater Area.

Section 15.1-446.1 of the Code of Virginia sets forth the legal requirements concerning the Comprehensive Plan. It is equally important that the process be viewed in light of two important factors:

first, Middlesex County will grow; and

second, the County and its citizens must deal with the problems and opportunities associated with that growth.

Change within any community is inevitable. This change can be viewed either as an asset or a liability. The Comprehensive Plan, along with the accompanying processes needed to produce it, provide the necessary tool to chart the County's future. At no time should planning be viewed as a process intended to set forth a rigid and inflexible course. The inherent flexibility of planning allows communities to anticipate needs and achieve aspirations. Planning is the process by which a community (a) assesses its current state of development, needs, problems, and resources; (b) determines its desirable future physical form and character; (c) establishes public policies designed to help bring about the desired form and character; and (d) uses established policies as a basis for guiding public activities and regulating private activities. The process should result in a rational allocation of scarce resources which meets the community's established priorities. The community should avoid within acceptable bounds, future environmental, social, and economic problems and crises.

## Chapter 1

### Natural Resources

The physical characteristics of land impact strongly on the ways in which it is used. For instance, the configuration of land and water bodies impact significantly on development patterns. Middlesex County is a prime example of an area in which the presence of water has exerted tremendous influence on development. Other factors such as soil and slope conditions play an important role in determining settlement patterns.

It is very important to recognize that the preservation, use, or development of natural resources will have either a positive or negative impact on the County, its citizens, and its economy. The inclusion of natural factors of Middlesex County into the planning process should enable the decision making process to be conducted in an atmosphere of objectivity therefore maximizing positive impacts and minimizing negative impacts of growth.

One of the single most important factors in Middlesex County with respect to land use planning is the soil base. Soil conditions serve as a major determinant of suitable locations for septic tanks, building foundations, basements, roads, and crop land.

A soil survey for Middlesex County was published in 1985 in which its six (6) soil associations are described. Each of the soils may occur in a different association but in different patterns. Each association is named for its major soils. Following is a listing of the soil associations found in the County and their uses as described in the survey. For the reader desiring a more in-depth discussion of the associations, additional information is provided as an Appendix (beginning on Page 88) to this report.

#### Predominant Soil Association

##### Suffolk-Eunola-Remlik.

Residential development and cultivated crops dominate as the major uses of this unit. The soils which comprise this unit generally respond well to artificial drainage and are well suited for residential use. Some areas, especially those along the Rappahannock and Piankatank Rivers, are currently being converted from agricultural to urban uses.

Slagle-Ackwater-Craven.

The soils which make up this unit are used mainly for cultivated crops and woodland.

Kempsville-Suffolk-Kinston.

While these soils are mainly in woodland uses some, however, are used for cultivated crops. Many of the soils found in upland areas are well suited for both farming and urban uses.

Emporia-Slagle-Nevarc.

These soils are generally not well suited for residential development due to a seasonal high water table. Because of a moderately slow permeability in the subsoil most of these soils do not respond well to tide drainage. While this unit is used mainly for woodland, some areas are farmed.

Pocaty-Kinston-Bibb.

Woodlands or native grassy vegetation dominate these soils and as such the unit is used mainly for wildlife habitat along with some limited timber production. Commercial hardwoods are supported by the Kinston and Bibb soils and provide habitat for many wildlife species. The low lying saltwater marshes found in this unit provide spawning grounds for many saltwater species of fish and for the blue crab.

Myatt-Eunola-Lumbee.

This unit makes up only about two percent of Middlesex County and is found on the broad, low flat of Stingray Point. The unit is used mainly for woodlands due in part to a high seasonal water table which serves to limit community development although, summer home sites are also a recognized use. Some areas have been drained and are utilized for agricultural purposes.

Source: U.S. Soil Conservation Service Soil Survey  
of Middlesex County, Virginia-1985

Topography

Three (3) categories of slopes have been mapped in the County--zero to eight percent (0 to 8%), eight and one tenths percent to fifteen percent (8.1 to 15%), and over fifteen percent (15%). Most of the land in the County is flat or gently sloping (0 to 8%), with the other two slope categories occurring primarily along stream banks.

Exhibit Number 2 of the Middlesex County Comprehensive Plan, displayed in the Boardroom of the Woodward Building shows the slope of land throughout Middlesex County. Areas indicated as 8.1 to 15% slope are generally suitable for development. Some modification in

construction is necessary along stream banks to prevent erosion. Those areas of greater than 15% slope are unsuitable for development.

Extreme slope hinders development somewhat in strips along the waterfront but does not constitute a deterrent to any great degree in any areas of Middlesex County.

#### Minerals

Mineral production in Middlesex County is limited to sand and gravel. These minerals are available in thin layers sporadically throughout the County. Sand, more prevalent than gravel, is located along much of the shoreline.

Calcareous Marl is available for agricultural use to neutralize the soil. Clay can be found in selected locations which is suitable for the manufacture of brick and garden pottery.

#### Water Quality

Water is one of Middlesex County's greatest resources. Indeed, the County is fortunate in that it is almost completely surrounded by water--Rappahannock River, Chesapeake Bay, Piankatank River, and Dragon Run. The waters provide abundant opportunities for commercial and sport fishing and shellfishing, boating, swimming, commerce, and other water-oriented activities.

Many uses are dependent upon maintenance of a specific level of water quality. For example, shellfish growing waters are required to meet high standards in order to remain open to harvesting. Water quality is influenced by many factors, both natural and man-made, but perhaps the most notable is man's use of the land. Runoff from cultivated fields and paved areas, discharges from sewage treatment plants, leaching of effluents from malfunctioning septic tanks, and shoreline modification during construction all affect water quality in some way.

Impacts of land use on water quality must be considered during the planning process, with the intent of avoiding or at least minimizing adverse impacts insofar as possible and feasible.

From 1973 to 1985 shellfish production in Middlesex County averaged approximately one and one half (1.5) million pounds. During the thirteen (13) year period, only one (1) year, 1983, saw production fall below one (1) million pounds. Market value of the catch showed little annual fluctuation.

Production of oysters fell sharply during the years 1986-87. Oyster drills, a natural enemy and the disease

MSX are largely responsible for the decline. The catch for 1987 is estimated to be approximately ten thousand (10,000) pounds. The actual production figures are not expected to differ significantly from the estimate.

Currently there are several shellfish (oyster) growing areas which are condemned for use by the State Bureau of Shellfish Sanitation. While the cause of the pollution is not noted in the notice of condemnation, it is obvious to the most casual investigation that man's use of the land contributes to the problem.

The following table contains a listing of the condemned areas.

TABLE 1  
CONDEMNED SHELLFISH GROWING AREAS  
IN MIDDLESEX COUNTY

<u>Bureau of Shellfish Sanitation Area No.</u>	<u>Description</u>	<u>Effective Date</u>
38	Broad Creek	9-30-86
42	Urbanna Creek	8-25-87
51	Rappahannock River (below Urbanna)	10-07-83
76	Upper Piankatank River	8-12-85
84	Jackson Creek (seasonally condemned April 1 through October 31)	2-23-81
90	Parrotts Creek	9-23-86
103	Rappahannock River (Mill Creek)	10-17-83
104	Rappahannock River (Sturgeon Creek)	3-18-85
109	Rappahannock River (Bush Park Creek)	4-21-72
126	Piankatank River (Wilton Creek)	12-17-86
127	LaGrange Creek	3-18-85
129	Healy Creek	4-20-83

Broad Creek. All of Broad Creek is condemned upstream from a line drawn from the north corner of Walden Brothers Marine Parkway Shop, located at the termination of State Route No. 636, to the northwest corner of the Jerman Hunter cottage on the east shore.

Urbanna Creek. The condemned area includes that portion of Urbanna Creek and its tributaries lying upstream of a line extending southwesterly from the offshore end of the jetty at the mouth of the creek to the northeasternmost projection of Bailey Point on the opposite shore.

Rappahannock River (below Urbanna). The condemned area extends from the mouth of Urbanna Creek downstream to, and including, Whiting Creek.

Upper Piankatank River. The condemned area includes that portion of the Piankatank River and its tributaries lying upstream of a line drawn from the Marine Resources Commission survey station "Hilaheth" in a southeasterly direction to Anderson Point on the opposing shore.

Jackson Creek. The seasonally condemned area includes all of Jackson Creek and its tributaries lying upstream of a line beginning at the northernmost point of the northeast projection of Stove Point Neck across the mouth of Jackson Creek to the Marine Resources Commission survey station "Harrow".

Parrotts Creek. The condemned area includes all of Parrotts Creek and its tributaries lying upstream of a line drawn from the Marine Resources Commission survey marker "Spit" due east to the opposite shore.

Rappahannock River (Mill Creek). The condemned area includes that portion of Mill Creek and its tributaries lying upstream of a line drawn from the Marine Resources Commission survey marker "Parker" located on the south shore northwesterly to the Marine Resources Commission survey marker "Boat" located on the north shore.

Rappahannock River (Sturgeon Creek). The condemned area includes that portion of Sturgeon Creek and its tributaries lying upstream of a line drawn from the Marine Resources Commission survey marker "Land" located on the north shore due south for approximately 900 feet to the opposite shore.

Rappahannock River (Bush Park Creek). The condemned area includes all of Bush Park Creek and its tributaries lying upstream of a line drawn across the mouth of the creek from the easternmost point on the west shore easterly to the northernmost point on the east shore. The restriction line then appears roughly as a continuation of the Rappahannock River shoreline.

Piankatank River (Wilton Creek). The condemned area includes that portion of Wilton Creek and its tributaries lying upstream of a line drawn from the Marine

Resources. Commission survey marker W-2 on the west shore to survey marker G-4 on the east shore.

LaGrange Creek. The condemned area includes that portion of LaGrange Creek and its tributaries lying upstream of a line drawn from the Marine Resources Commission survey marker "Locust" located on the north shore to survey marker "Burch" on the south shore.

Piankatank River (Healy Creek). The condemned area includes all of Healy Creek and its tributaries lying upstream of a line drawn from the Marine Resources Commission triangulation station "F" on the west shore extending to triangulation station "P" on the east shore of Healy Creek.

The progress report issued by the Virginia Council on the Environment concerning Virginia's Chesapeake Bay Program describes the Rappahannock River as "the least polluted of the Bay's major tributaries". Further, the State Water Control Board has classified the majority of the river as effluent--limiting. The section of the river involving Middlesex County falls within this classification. Urbanna Creek has been given the same designation.

It is generally recognized that increased urbanization of the Rappahannock River Basin will impact significantly on the potential deterioration of water quality in the near future.

A positive note is, however, that several previously closed shellfish areas have been reopened. Areas cited in Middlesex County are parts of Parrotts, LaGrange, and Sturgeon Creeks.

#### Groundwater

Underground aquifers are the source of all domestic and industrial water supplies in Middlesex County. Groundwater occurs in three major aquifer systems. The uppermost system is the water table aquifer, consisting of unconsolidated deposits of Tertiary, Pleistocene, and Recent Age. This unconsolidated aquifer is a reliable source of domestic groundwater supply, but seasonal fluctuations and lack of sufficient storage make it impractical for industrial or municipal supplies. The second aquifer system is the upper artesian aquifer system formed from sediments of Miocene and Eocene Age. The third aquifer system is the principal artesian aquifer system, compounded of deposits of Paleocene and Cretaceous Age.

The Yorktown aquifer system, which occurs under the water table and local artesian conditions, is important in the Deltaville and Stingray Point areas of Middlesex

County. The upper and principal artesian systems in these areas are brackish and therefore unsuitable for potable use.

The upper artesian aquifer system in the County has a fairly consistent thickness of about fifty feet and consists of fine to medium grain sand, moderately to poorly sorted with glauconite. The consistency of this system makes it a reliable source of domestic water supply, except in the Deltaville and Stingray Point areas where the water in the system is highly mineralized. It appears that, in general, adequate groundwater supplies exist for foreseeable future uses in Middlesex County. Portions of the County east of and including the Wilton Creek, Deltaville, and Stingray Point areas are dependent upon water table aquifers which are, at present, sufficient but may be subject to problems of overuse in the future.

#### Shoreline Area

The shoreline of Middlesex is one of its major assets. It provides a source of human livelihood, recreation, wildlife habitat, and homesites. Frequently, these uses overlap and are in conflict; however, this situation need not prevail. There are a sufficient number of organizations at all levels of government, as well as the private sector, which should be able to provide ample planning capacity to deal sufficiently with present and future problems.

In 1980, the Virginia General Assembly amended the Shore Erosion Control Act to permit the establishment of the Shoreline Erosion Advisory Service (SEAS). This office, located in Gloucester County, assesses the effects of shoreline erosion and provides technical assistance to property owners experiencing erosion problems.

The Virginia Institute of Marine Science published, in 1975, a Shoreline Situation Report for the County. This report describes the types and extent of shoreline, shoreline problems, and potential use enhancement. Since the report has not been updated but apparently is slated for revision in the near future, it is deemed advisable to include that information in future revisions of the Middlesex County Comprehensive Plan.

#### Climate

Middlesex County is located in a temperate zone of climate where neither winter nor summer temperatures are generally severe. The average annual temperature is approximately fifty-nine (59) degrees Fahrenheit, with January averaging thirty-eight (38) degrees Fahrenheit and July, seventy-seven (77) degrees. Precipitation annually averages forty-three (43) inches, twelve and one-half (12.5) inches of which is snowfall.

The climate is supportive of the agricultural and forestry activities and contributes to the seasonal attractiveness of Middlesex County. The absence of extreme weather conditions relieves the need for special consideration in both the building of homes and site development in the growth of the County.

#### Forests

The forestry industry is a major force in the economy of the County. Of the total eighty-three thousand (83,000) acres of land area, sixty-one percent (61%) is covered by forests, of which eighty-one percent (81%) is softwood. The remaining nineteen percent (19%) is made up of soft-hardwoods and hard-hardwoods. Soft-textured hardwoods are made up of woods such as red and silver maples, sweetgum, and yellow-poplar. Hard-textured hardwoods are represented by such trees as sugar maple, birch, hickory, and all commercial oaks.

The forests of Middlesex County are a potentially depletable resource if appropriate management techniques are not practiced. Recent studies indicate that annual growth of all species except pine timber currently exceeds annual removals. Net annual removals of pine saw timber exceeds net annual growth by some thirty-four percent (34%).

## Chapter 2

### Land Use

Forestry and agriculture dominate land use in Middlesex County. Residential, commercial, industrial, and recreational uses occupy only a modest amount of County acreage. The figures which appear in the following table serve to demonstrate the significance of these two land uses.

TABLE 2  
EXISTING LAND USE

<u>Use Category</u>	<u>Acres</u>
Forest	51,470
Cropland	27,475
Pasture	864
Urban and Built-up	2,496
Other	895

Source: U.S. Department of Agriculture, Statistical Reporting Service - 1982

The County is experiencing increased residential and commercial growth. Currently, most of this growth is occurring along the shoreline and especially in the portion of the County east of Hartfield. The present developmental picture of the County is one of low density with a random mixture of land uses.

The only incorporated area in the county is the Town of Urbanna. It is predominantly residential in nature but also has a well-defined business district. It is the largest centralized commercial area in the County.

Saluda is the County's seat of government and has developed around the County Court House complex. Saluda is primarily residential in character but also contains several legal and other professional offices, government offices, and several businesses.

Eastern Middlesex County has, over the years, grown in stature as a retirement and recreation area. The majority of uses in this area are residential, however, some commercial and other uses are also located there. Deltaville has long served as a center for boat building and repair.

Outside the three areas of Saluda, Urbanna, and Deltaville, the County is interspaced with small, rural communities. These communities consist of residences, one or two churches, a post office, and small businesses such as general stores. Residential subdivisions, small industries such as seafood processing plants, commercial campgrounds and marinas, are other forms of uses.

The following table shows the total number of uses by category for the period ending June 30, 1982.

TABLE 3  
LAND USES BY CATEGORY

<u>Use Category</u>	<u>No. Uses</u>
Residential	4,936
Manufacturing	27
Transportation, Communications, Utilities	24
Wholesale Trade	12
Retail Trade	52
Financial, Insurance, Real Estate	16
Services	70
Government:	
State	8
Local	6
Federal	5

Source: U.S. Department of Commerce, Bureau of the Census, 1982 Census of Agriculture

#### Forest Land Use

Approximately 51,470 acres (60%) of Middlesex County are forested. In 1977, the figure was 54,000 acres, or 63.9%. Ownership of commercial forest land is shown in Table 4.

TABLE 4  
OWNERSHIP OF FOREST LAND

<u>Owner</u>	<u>Acres</u>
State	5
County	35
Forest Industry	5,283
Farmer	13,188
Miscellaneous Private	<u>32,969</u>
Total	51,470

Source: U.S. Forest Service, Forest Survey - 1985

Softwoods, primarily pine, are predominant in Middlesex County due to climate, soil types, and other physical conditions. A breakdown by species is presented in Table 5.

TABLE 5  
FOREST INVENTORY BY SPECIES GROUP, 1985

<u>Species Group</u>	<u>Sawtimber (a) (1000 Bd. Ft.)</u>	<u>Growing Stock (b) (1000 Cu. Ft.)</u>
Softwoods (c)	110,793	42,669
Soft Hardwoods (d)	97,407	31,298
Hard Hardwoods (e)	53,473	18,199

a = Softwoods 9" DBH and over; hardwoods 11" DBH and over

b = All merchantable trees 5" DBH and over

c = Mostly loblolly pine and Virginia pine; some red cedar and cypress included

d = Red maple, yellow poplar, sweet gum, black gum, sycamore, elm

e = Oak, hickory, birch, beech, ash, black walnut, locust

Source: U.S. Forest Service, Forest Survey - 1985

Apart from obvious economic value, forests also serve as erosion and sedimentation inhibitors, wildlife habitat, and recreation areas. Perhaps equally important is the aesthetic value provided by forests and the role they play in contributing to the "rural character" that Middlesex County residents and visitors find appealing.

### Agricultural Land Use

Agricultural uses occupy the second largest percentage of the County land area. The following tables present data concerning the number and sizes of farms in the County.

TABLE 6  
FARMS IN MIDDLESEX COUNTY

<u>Year</u>	<u>Number of Farms</u>	<u>Average Size (Ac.)</u>
1959	361	105.0
1964	215	138.2
1969	186	142.1
1974	162	160.0
1978	146	188.0
1982	127	196.0

Source: U.S. Department of Commerce, Bureau of  
the Census, 1982 Census of Agriculture

TABLE 7  
NUMBER OF FARMS BY SIZE, 1978, 1982

<u>Size Range (Acres)</u>	<u>Number of Farms</u>	
	<u>1978</u>	<u>1982</u>
0-49	61	59
50-99	39	19
100-179	17	11
180-259	9	11
260-499	13	13
500-999	12	9
1,000 and over	5	5

Source: U.S. Department of Commerce, Bureau of  
the Census, 1982 Census of Agriculture

TABLE 8  
LAND IN FARMS ACCORDING TO USE

<u>Use Category</u>	<u>1974 (Acres)</u>	<u>1978 (Acres)</u>	<u>1982 (Acres)</u>
Harvested Cropland	15,880	15,424	15,888
Cropland Used			
Only for Pasture			
or Grazing	1,057	0,864	1,144
All Other Cropland	0,152	1,298	0,165
Woodland Including			
Woodland Pasture	7,321	8,311	6,367
All Other Land	1,518	1,578	1,311

Source: U.S. Department of Commerce, Bureau of the  
Census, 1982 Census of Agriculture

The data presented in the above tables indicate that Middlesex County is following the nationwide trend toward fewer, but larger farms. Any number of factors can be used to explain this phenomenon. While a way of life is being affected, overall, agricultural activity is being maintained in the County.

Middlesex County is a popular area for retirement and recreation. Although a large portion of the residential housing is devoted to seasonal use, the majority of single family housing units, seventy-one percent (71%) are occupied all year.

Seasonal residences impact on the County and its economy in ways differing from year-round use. Probably the most significant difference is the speculative nature of the activity. For the past several years, seasonal residences have tended to locate almost exclusively on waterfront property. However, as waterfront lands have become more and more scarce, inland lands are being developed, especially those areas having any type of water impoundment.

Residential use increases the speculative value of land and adjoining properties regardless of the classifications, seasonal or year-round. The added value impacts on the land conversion process. This is important when viewed in light of the agricultural and forestry segments of the County's economy. Prime agricultural land is located in areas most valued for residential development. As more inland development occurs, forestlands will experience the same pressures.

Shoreline erosion has long been a problem experienced by owners of waterfront property. Over time, various techniques have been utilized in an attempt to arrest the problem. Studies conducted by the Virginia Institute of Marine Science have documented annual rates of shore erosion experienced at different areas in the County. The Shoreline Erosion Advisory Service, located in Gloucester County, offers its services to both land owners and prospective buyers.

Public access to the water is and continues to be a cause for concern. A recent investigation conducted by the Office of the County Administrator identified some twenty-three (23) public landings located throughout Middlesex County. While the landings are in various stages of development, current actions by the Virginia Department of Transportation indicate that some of them will be improved and opened to the public. In addition, the County has developed Canoe House Landing, a small waterfront park and beach area. The County is also cooperating with the Army Corps of Engineers in other projects.

#### Commercial Land Use

At present, there are no large commercial uses or suburban-style shopping centers in the County. Generally, the current commercial centers are located in Urbanna, Deltaville, and Saluda, with other commercial uses located at intersections along the primary highways.

As Middlesex County continues to grow, more business will be established to serve the needs of the expanding population. Strip commercial development is currently not a significant problem, but a situation that should be avoided.

#### Industrial Land Use

Industrial development, as it is most commonly defined, has been relatively limited. Industries in the County have most frequently grown out of the natural resource base of the area; i.e. seafood processing, boat building, and forest related industries. However, in recent years, other types of manufacturing plants have located near Urbanna and Hummel Airport.

#### Public and Semi-Public Facilities Land Use

This category includes all government buildings and facilities, churches, schools, clubs, libraries, and similar uses providing a service to the general public. Most County government buildings and facilities are located in Saluda. The County Health Department is located at Cooks Corner, the sanitary landfill is at Stormont and the Department of Social Services is outside the Town of Urbanna.

Public and semi-public uses in Urbanna include the Town Office, the Middlesex Library, the Women's Club Building, Central Middlesex Fire Department and Rescue Squad, and two churches. Other uses in this category in the County include post offices, churches, two elementary schools, one intermediate school, one high school, the Puller Vocational Center, and others.

#### Transportation and Utilities Land Use

Land use in this category is very important because of the role it plays in shaping the growth and development of the County. Historically, the location of roads and utilities has determined the location of housing, businesses, and other uses. This has been true in Middlesex County to date.

#### Recreation Land Use

Included in this category are campgrounds, marinas, public boat landings, parks, and community playfields. Most of the recreation uses in Middlesex County are water-oriented.

#### Summary

Land use in Middlesex County, as in much of rural America, has been shaped by individual preferences, environmental factors, and economic and social forces. While County residents generally express satisfaction with their environment, existing land use patterns have given rise to certain problems and concerns. For instance, the delivery of public services to a widely dispersed population is often prohibitively expensive. Additionally, the potential for pollution of water resources from a high concentration of residential waterfront is significant.

Thus far, Middlesex County has not experienced the uncontrolled growth which has occurred in several counties across the state. However, current indicators point to an acceleration of growth and development. Several management tools have been put in place by County officials such as a County-wide zoning ordinance and a subdivision ordinance.

## Chapter 3

### Housing

The population of Middlesex County has been on an upward trend since 1970. Prior to that time, the County reflected the negative growth pattern of many of the rural counties across the state and nation as many of its families and young people migrated to the cities and urban centers. Positive factors such as increased levels of disposable income and leisure time coupled with negative factors of urban living such as over-crowding, noise, and air pollution have contributed to the attractiveness of rural areas as places to live. A greatly improved highway system has also contributed to growth in rural areas by enabling people to commute longer distances to places of work. In addition, Middlesex County has grown in stature as a retirement and recreation community. As the County is almost entirely surrounded by water it has given rise to an increase in the rate of construction of "second" or vacation homes. The "rural atmosphere" of the County has attracted an increased number of retired people whose demand for housing has added further stimulus to the industry.

The following table serves to demonstrate numerically the rise in population and the corresponding increase in total housing units.

TABLE 9  
POPULATION AND NUMBER OF HOUSING UNITS BY YEAR

	<u>1960</u>	<u>1970</u>	<u>1975</u>	<u>1980</u>
County Population	6303	6295	7200	7719
Number of All Housing Units	2701	3300	4008	4936

Source: U.S. Bureau of the Census, 1980 Census of Housing.

Table 10  
BUILDING PERMITS BY YEAR AND MAGISTERIAL DISTRICT\*\*

<u>Year</u>	<u>District</u>				<u>Total</u>
	Pinetop	Jamaica	Saluda	Town of Urbanna	
1985	359	82	149	31	621
1986	339	62	202	38	641
1987	428	67	179	25	699
1988*	250	49	134	24	457

\* Jan-Sept.

\*\* All Building Permits (does not include permits issued solely for electrical or plumbing installations).

Source: Middlesex County Building Inspector's Office - 1988

TABLE 11  
NEW SINGLE-FAMILY DWELLING PERMITS

<u>Year</u>	<u>District</u>				<u>Total</u>
	Pinetop	Jamaica	Saluda	Town of Urbanna	
1985	44	4	15	3	66
1986	42	7	24	**15	88
1987	**114	4	21	**10	149
1988*	47	3	18	0	68

\* Jan. - Sept.

\*\* Includes condominiums, duplexes, and apartment buildings.

Source: Middlesex County Building Inspector's Office - 1988

TABLE 12  
MOBILE HOME PERMITS BY YEAR AND MAGISTERIAL DISTRICT

<u>Year</u>	<u>District</u>			<u>Total</u>
	Pinetop	Jamaica	Saluda	
1985	49	17	16	82
1986	27	13	21	61
1987	36	15	15	66
1988*	11	9	13	*33

\*Jan.-Sept.

Source: Middlesex County Building Inspector's  
Office - 1988

The change in population during the period of 1960-80 was above twenty-two and four tenths (22.4) percent, while the figure for housing was above eighty-two and seven tenths (82.7) percent. Additionally, the year-round occupancy rate is estimated at seventy-one percent (71%). While the occupancy rate has increased more recently, sixty-four percent (64%) in 1977 versus seventy-one percent (71%) in 1980, the lower rate of occupancy reflects the nature of the County.

The majority of housing units, eighty-five percent (85%) in 1980, are single family homes. Mobile homes still remain a viable form of housing for many residents as indicated by the data contained in Table 12. These units have shown, over the past years, the greatest increase in the Pinetop District while the Jamaica and Saluda Districts tend to show an equal rate growth.

Although there has been growth in the number of housing units for rent in the County, overall availability is still relatively small. Duplex and multi-units have been built in all three population centers (Deltaville, Saluda, and Urbanna). Single-family dwellings represent the largest segment of the rental housing market.

The following table offers a comparison of owner-occupied and renter-occupied housing for the periods of 1970 and 1980.

TABLE 13  
OWNER-OCCUPIED AND RENTER-OCCUPIED UNITS  
AS A PERCENTAGE OF ALL OCCUPIED UNITS

	Owner Occupied		Renter Occupied	
	<u>1970</u>	<u>1980</u>	<u>1970</u>	<u>1980</u>
Middlesex County	82	83	18	17
Jamaica District	77	86	23	14
Pinetop District	86	90	14	10
Saluda District	79	75	21	25

Source: U.S. Bureau of the Census, 1980 Census of Housing

#### Housing Distribution

For the past several years, the Pinetop District has been the area demonstrating the most growth. Of the building permits issued for new single-family dwellings for the past three years, sixty-seven percent (67%) are located in the Pinetop District. The District also accounts for fifty-four percent (54%) of all mobile home permits during the same period of time.

The majority of building permits issued for all purposes in the past three (3) year period have been in the Pinetop District. These permits are issued when most types of repairs and improvements are made. Improvements may include the upgrading of older dwellings or the expansion of existing year-round housing units.

#### Condition of Housing Units

Sufficient current data are not available to address this element of the Plan. It is anticipated that future census data as well as other sources will afford an opportunity to address the subject area.

As noted earlier in this section, the number and type of building permits issued can serve as useful indicators of the condition of existing housing units. The number of permits for all purposes has shown a dramatic increase in recent years, and it is assumed a large number of these involved the upgrading of present dwellings.

The following table offers evidence of the degree to which housing units are being improved.

TABLE 14  
NUMBER OF OCCUPIED UNITS  
LACKING ONE OR MORE PLUMBING FACILITIES

	Year		Percent
	<u>1970</u>	<u>1980</u>	<u>Change</u>
Middlesex County	663	232	-65.0
Jamaica District	144	55	-62.0
Pinetop District	260	67	-74.0
Saluda District	260	110	-57.0

\*Lacking one or more of the following: hot piped water, flushing toilet for one household only, bathtub or shower for one household only.

Source: U.S. Bureau of the Census, 1980 Census of Housing

## CHAPTER 4

### Transportation

Virtually all transportation in Middlesex County is highway-oriented. Alternatives to highway transportation do exist but play a relatively minor role. Bus service is available along U.S. Route 17, airport facilities exist at Hummel Field for private planes, and numerous marinas offer services to private boat owners. The additional service of charter bus companies has been established in the last few years and offer an added mode of transportation. The table below indicates the extent and condition of the highway system for Middlesex County. Data indicates a steady increase in mileage as roadways are accepted into the state secondary system. The condition of the roads has also improved steadily as surfacing is continually being upgraded.

TABLE 15  
HIGHWAY MILEAGE BY TYPE

	<u>1950</u>	<u>1960</u>	<u>1970</u>	<u>1986</u>
Primary Highways	0.00	0.00	43.92	46.86
Secondary Highways	117.58	122.54	143.76	150.57
Hard Surface	68.84	87.66	119.41	135.47
All-Weather Surface	16.39	25.16	22.07	14.02
Light Surface	25.61	9.72	2.28	1.08
Unsurfaced	6.74	0.00	0.00	0.00
Total			187.68	197.43

Source: Virginia Department of Transportation - 1986

Primary highways carry the bulk of all through traffic as well as a substantial portion of the intra-county travel. Primary routes in Middlesex County include U.S. Route 17 and Virginia Routes 3 and 33. Use characteristics of these routes are shown in Tables 16 through 18.

TABLE 16

## AVERAGE DAILY PASSENGER CAR TRAFFIC ON PRIMARY ROADS

ROUTE NO.	FROM	TO	VIRGINIA PASSENGER CARS			OUT OF STATE CARS		
			1975	1986	PERCENT CHANGE	1975	1986	PERCENT CHANGE
17	Center Cross	Rt. 17 Business West - Saluda	3,050	5,800	+ 90.0	550	300	- 83.0
17	Rt. 17 Business West - Saluda	Business 17 & 33 South - Saluda		2,600			200	
17-33	Business 17 & 33 South - Saluda	Rt. 33, Glenns	4,050	6,300	+ 55.5	580	290	-100.0
33	Slingsay Point	Rt. 3 Near Hartfield	1,900	3,450	+ 81.5	50	10	-400.0
33 & 3	Rt. 3 Near Hartfield	Rt. 3, Harmony Village	2,200	4,100	+ 86.4	95	15	-533.0
33	Rt. 3, Harmony Village	Rt. 227, Cooks Corner	3,200	5,500	+ 71.8	120	75	- 60.0
33	Rt. 227, Cooks Corner	Rt. 17 Business, Saluda	3,550	6,700	+ 98.4	100	75	- 33.3
3	Harmony Village	Grey's Point Bridge	1,500	3,450	+130.0	95	25	- 74.0

Source: Virginia Department of Transportation

TABLE 17

## AVERAGE DAILY TRUCK TRAFFIC ON PRIMARY ROUTES

TRUCKS			SINGLE UNIT TRUCKS			TRAILER		
ROUTE NUMBER	FROM	TO	1975	1986	% CHANGE	1975	1986	% CHANGE
17	Center Cross	Rt. 17 Business West, Saluda	900	2,320	+157.0	140	490	+250.0
17	Route 17 Business West, Saluda	Business 17 & 33 South, Saluda		1,040			410	
17 & 33	Business 17 & 33 South, Saluda	Rt. 33, Glenns	1,320	2,460	+86.3	190	540	+184.2
33	Stingray Point	Rt. 3, Near Hartfield	490	1,560	+218.0	3	15	+400.0
33 & 3	Rt. 3 Near Hartfield	Rt. 3, Harmony Village	645	2,160	+234.0	20	75	+275.0
33	Rt. 3, Harmony Village	Rt. 227 Cooks Corner	820	2,040	+148.7	40	80	+100.0
33	Rt. 227, Cooks Corner	Rt. 17 Business Saluda	955	2,365	+147.6	50	95	+90.0
3	Harmony Village	Grey's Point Bridge	320	1,755	+448.3	40	85	+112.5

Source: Virginia Department of Transportation

TABLE 18  
AVERAGE DAILY TOTAL TRAFFIC ON PRIMARY ROUTES

ROUTE NUMBER	FROM	TO	1975	1986	% CHANGE
17	Center Cross	Rt. 17 Business West, Saluda	4,680	8,925	+90.7
17	Route 17 Business West, Saluda	Business 17 & 33 South, Saluda		4,260	
17 & 33	Business 17 & 33 South, Saluda	Rt. 33, Glenns	6,165	9,615	+55.9
33	Stingray Point	Rt. 3 Near Hartfield	2,450	5,045	+105.9
33 & 3	Rt. 3, Near Hartfield	Rt. 3, Harmony Village	2,975	6,360	+113.7
33	Rt. 3, Harmony Village	Rt. 227, Cooks Corner	4,215	7,720	+83.0
33	Rt. 227, Cooks Corner	Rt. 17 Business, Saluda	4,690	9,280	+97.8
3	Harmony Village	Grey's Point Bridge	1,970	5,315	+170.0

Source: Virginia Department of Transportation

Construction of the U.S. Route 17 By-Pass segment was completed and opened to traffic in the fall of 1985. During the following year, 1986, the average daily total traffic count was 4,260 vehicles.

Overall, traffic has increased steadily as well as substantially on all primary routes in Middlesex County. Information shown in the preceding tables (Tables 16-18) demonstrates the growth in traffic and indicates the percent of change for the years 1975 through 1986. While passenger car traffic has grown significantly, it is the average daily truck traffic which has shown the greatest increase. On all highway segments except one, average daily truck traffic has doubled. Trailer truck traffic has doubled and often tripled in number on County primary roads.

Information contained in the table below illustrates the dramatic increase in traffic on the County's primary

highways. Of particular interest is the position at which the County is ranked in terms of density of traffic. In short, Middlesex County ranked sixty-third in the state in 1971, and thirty-fourth in 1986.

TABLE 19  
DENSITY OF TRAFFIC ON PRIMARY ROUTES

<u>Year</u>	<u>Average 24 Hour Traffic Per Mile of Road</u>	<u>Rank In State</u>
1971	2,688	63
1973	3,202	N/A
1975	3,475	59
1986	6,719	34

Source: Virginia Department of Transportation - 1986

Primary highways have a significant impact on land use. Land along these highways is highly desirable for commercial and industrial development. Strip commercial development is particularly difficult to regulate since potential businesses want road frontage, and landowners find the price of commercial road frontage attractive. Strip commercial development is not a problem in Middlesex County presently, but as the recreation and tourism industry grows and population increases, this could become a serious problem in terms of highway safety and traffic congestion.

#### Secondary Highways

Middlesex County's secondary highways are utilized primarily for intra-county travel. In a rural county, they are especially important to commerce and the general movement of goods and services. They carry farm products to market, timber to sawmills and pulp mills, tourists from primary highways to campgrounds and marinas, and residents to places of work and shopping.

The County's secondary highway system is basically sound and functions well.

#### Railways

No railway service is available within Middlesex County, however, rail facilities are available in Richmond, Newport News and the Town of West Point.

### Airports

Hummel Field, located seven miles northeast of Saluda at Topping, is a small airfield suitable for business and pleasure aircraft. The runway is approximately two thousand-five hundred (2,500) feet long, hard-surfaced, and fuel and tie-downs are available. Lodging and meals are available at an adjacent motel.

Three (3) major airports are located within fifty (50) miles of the County. Patrick Henry Airport in Newport News, Norfolk International in Norfolk, and Richmond International Airport in Richmond are served by numerous commercial airlines. The fields are attended on a twenty-four hour basis and include a complete line of services for business and private air transportation.

### Waterways

The navigable waterways surrounding a major portion of Middlesex County offer an additional mode of transportation. Although utilized mainly by the public for pleasure boating, some commercial shipping is conducted. While grain is the principal cargo, seafood and petroleum are also transported by water.

### Mass Transit

There is no public bus line providing intra-county service on a regular schedule. A commercial carrier maintains a regular schedule of terminal service at Saluda.

## Chapter 5

### Population

The most recent accurate measure of the population of Middlesex County was taken in 1980 at the time of the decennial census. Estimates have been made by the Center for Public Service, University of Virginia and these have also been utilized in this section. Unless otherwise cited, figures and tables included in this section have been compiled using U.S. Census published information.

#### Historical

Until recently the population of Middlesex County has demonstrated a steady rate of decline. Throughout the nation, rural areas lost population as people migrated to urban centers in search of employment. The population of Middlesex County peaked at 8,852 in the year 1910 and then began a steady decline that lasted until the 1950's. From then until the early 1970's, the population increased only slightly. In the mid-1970's and especially throughout the 1980's, the population has shown a considerable increase. Projections estimated the 1986 Middlesex population at 8,700 and estimate that the County's population will be at a level of 9,000 by 1990.

Population trends can be seen in the following table.

TABLE 20  
POPULATION GROWTH TRENDS

<u>Year</u>	<u>Number</u>
1910	8,852
1920	8,157
1930	7,273
1940	6,673
1950	6,715
1960	6,719
1970	6,295
1980	7,719
1986	8,700
1990	9,000

Source: Center for Public Service, University of Virginia - 1987

### Composition

As a proportion of total population, the segment representing nonwhite residents has been steadily decreasing over the years. The following table shows the change in number as well as the change in percentage. The nonwhite population, black with the exception of a few, has dropped in numbers from 2,892 in 1940 to 2,297 in 1980, less than one-third of the total population. Once again, this is a reflection of a national trend, that of minorities moving to the urban centers primarily in search of better employment opportunities.

TABLE 21  
MIDDLESEX COUNTY POPULATION  
RACIAL CHARACTERISTIC

<u>Year</u>	<u>White</u>	<u>Per-centage</u>	<u>Non-white</u>	<u>Per-centage</u>
1940	3,781	56.7	2,892	43.3
1950	3,901	58.1	2,814	41.9
1960	3,700	58.6	2,619	41.4
1970	3,972	63.1	2,323	36.9
1980	5,422	70.3	2,297	29.7

As noted earlier in this report, the movement of large numbers of the white population from urban to rural areas can be seen in the increase in the number of whites from 1970 to 1980. The increase is also reflective of the growth in popularity of Middlesex County as a retirement community.

Within the Magisterial Districts, the nonwhite population ranges in percentages from 19.5% in the Pinetop District to 47.3% in the Jamaica District. The table below also shows the change which has taken place between 1970 and 1980.

TABLE 22  
BLACKS AND OTHER MINORITIES AS A PERCENTAGE  
OF TOTAL POPULATION

	<u>1970</u>	<u>1980</u>
Middlesex County	36.9	29.7
Jamaica District	57.7	47.3
Pinetop District	24.3	19.5
Saluda District	40.5	34.1

Distribution of population by sex has changed slightly since 1970. At that time, the distribution was fairly equal--3,124 males to 3,171 females. By 1980, the gap had widened--3,723 males to 3,996 females, or a difference of 273. The proportion of males and females in each age group is fairly equal until the age group of sixty-five (65) and older is reached, at which time, the greater life expectancy of the female is reflected.

TABLE 23  
AGE-SEX DISTRIBUTION

<u>Age</u>	<u>1970</u>	<u>1980</u>
	<u>Male</u>	
Under 5	215	207
5-19	896	828
20-34	425	706
35-54	710	861
55-64	380	447
65 and Over	498	649
Total	3,124	3,723
	<u>Female</u>	
Under 5	192	203
5-19	820	809
20-34	425	690
35-54	723	818
55-64	414	584
65 and Over	597	892
Total	3,171	3,996

The age distribution for Middlesex County of the population over sixty-five differs significantly from that of the state--nineteen percent (19%) versus nine percent (9%). In 1970, the figures were seventeen and four tenths percent (17.4%) and seven and nine tenths percent (7.9%) respectively. Once again, the attractiveness of the County as a retirement community is reflected in the foregoing figures as is median age in which thirty-nine and eight tenths percent (39.8%) for the County versus twenty-nine and eight tenths percent (29.8%) for the state.

#### Distribution

For the greater part of the current century, the population of the County has been concentrated in the lower half from Saluda and Urbanna east to Deltaville. Percentage figures displayed in Table 24 show the

distribution by Magisterial District and the fluctuation at ten-year intervals. From 1910 until 1960, the Jamaica District demonstrated a steady decrease in population; however, from 1960 to 1980, the population has remained constant. All districts show an increase in actual population figures for 1980 over 1970.

While both the Saluda District and the Jamaica District grew in actual population figures, both grew less in proportion to the Pinetop District. The Pinetop District has demonstrated a greater degree of growth in almost all areas of activity for the past several years. Permits issued for residential construction of new homes as well as general improvement far exceed the rest of the County. While all of Middlesex County has grown in popularity as a vacation and retirement community, the close proximity of the Pinetop District to the Chesapeake Bay and surrounding rivers has obviously had a substantial impact on development.

The population figures referred to in the foregoing paragraph appear in the following tables.

TABLE 24  
PERCENT POPULATION DISTRIBUTION  
AMONG MAGISTERIAL DISTRICTS

	<u>1950</u>	<u>1960</u>	<u>1970</u>	<u>1980</u>
Middlesex County	100.0	100.0	100.0	100.0
Jamaica District	19.6	17.0	17.0	17.2
Pinetop District	40.2	39.6	40.5	45.3
Saluda District	40.2	43.4	42.5	37.5

TABLE 25  
POPULATION BY MAGISTERIAL DISTRICTS

	<u>1950</u>	<u>1960</u>	<u>1970</u>	<u>1980</u>
Middlesex County	6,715	6,319	6,295	7,719
Jamaica District	1,319	1,076	1,074	1,330
Pinetop District	2,697	2,499	2,547	3,494
Saluda District	2,699	2,744	2,674	2,895

TABLE 26  
POPULATION BY RACE BY MAGISTERIAL DISTRICT--1980

	<u>White</u>	<u>Black</u>
Middlesex County	5,422	2,297
Jamaica District	700	630
Pinetop District	2,814	680
Saluda District	1,908	987

TABLE 27  
POPULATION DENSITY, 1970-80

	<u>(Area)</u> <u>Population</u>			
	<u>1970</u>	<u>1980</u>	<u>Sq. Miles</u>	<u>Acres</u>
Middlesex County	6,295	7,719	130.5	83,520
Jamaica District	1,074	1,330	48.6	31,104
Pinetop District	2,549	3,494	37.9	24,256
Saluda District	2,674	2,895	43.5	27,840

	<u>(Density)</u> <u>Person/Sq. Mile</u>		<u>Acres/Person</u>	
	<u>1970</u>	<u>1980</u>	<u>1970</u>	<u>1980</u>
Middlesex County	48.2	57.6	13.3	11.0
Jamaica District	22.1	27.4	29.0	23.3
Pinetop District	67.2	92.2	9.5	7.0
Saluda District	61.5	66.5	10.4	9.6

In 1980, population density per square mile for Virginia as a whole was one hundred thirty-four and seven tenths (134.7), and for the County, the figure was fifty-seven and six tenths (57.6). In 1970, the County figure stood at 48.2. The most dramatic change is seen in the figures representing the Pinetop District. There, the density of persons per square mile was 67.2 in 1970 and 92.2 in 1980, once more reflecting the increased level of development. A total population of 8,700 for 1986 was estimated by the Center for Public Service, University of Virginia for Middlesex County. At that level of population, a density of approximately sixty-six (66) persons per square mile would be reflected.

While Middlesex County obviously still retains much of its agrarian atmosphere, an increased density of population with fewer acres per person combined with increasing costs and a greater degree of mechanization are factors which often lead to a reduction in the number of farms. This is true of the County as can be seen in the following table. The farm population has decreased from forty-one percent (41%) in 1950 to six and two tenths percent (6.2%) in 1980. A total of four hundred seventy-six (476) persons were designated by the U.S. Farm Bureau of the Census as Rural Farm persons.

TABLE 28  
RURAL FARM--NONFARM\* POPULATION

	<u>1970</u>	<u>1980</u>	<u>1970</u>	<u>1980</u>
Rural Farm				
Number	2,746	1,062	724	476
Percentage	40.9	16.8	11.5	6.2
Rural Non-Farm				
Number	3,969	5,257	5,571	7,243
Percentage	59.1	83.2	88.5	93.8

Source: U.S. Bureau of the Census

\*The Census defines "nonfarm" as persons residing along paved highways in communities (unincorporated) and the Town of Urbanna.

#### Education

The educational attainment level of Middlesex County is increasing. The following data were taken from the 1980 Census of Population and compared wherever possible to 1970 figures. It is generally anticipated that information to be provided by the 1990 Census may well be more revealing.

In 1970, of those residents twenty-five years and over, seventeen and two tenths percent (17.2%) had completed high school, and less than eight percent (8%) had a college degree. By 1980, the figures had increased to twenty-five percent (25%) and eleven percent (11%) respectively. Further evidence of higher attainment levels can be seen from the number of high school graduates who further their education. For the period of 1982 through 1987, approximately sixty percent (60%) of the graduating high school students attended institutions of higher learning. Middlesex County is reflecting the availability of a new community college and a nation-wide trend of more education per person as they attempt to enter an increasingly competitive and sophisticated job market.

Listed below are the years of school completed by two (2) age segments of the population.

TABLE 29  
EDUCATIONAL ATTAINMENT LEVELS, 1980

	High School		College	
	<u>1-3 yrs</u>	<u>4 yrs</u>	<u>1-3 yrs</u>	<u>4/4+ yrs.</u>
Persons 18 Years and Older	2,797	1,628	898	584
Persons 25 Years and Older	1,020	1,286	779	551

#### Migration

The population of Middlesex County decreased fairly steadily until 1970. Limited employment opportunities, decreasing agricultural jobs, and a general inactivity in rural areas led people to urban areas. The black population of rural counties was very much affected, with the impact on the young black male population registering the greatest change. Overall, the black population of the County decreased by seven and two tenths percent (7.2%) from 1970 to 1980. The total population increased by eighteen and four tenths percent (18.4%) for the same period. Here again, the attractiveness of the County as a retirement community is demonstrated.

Generally, public school enrollment figures can be used as an indirect measure of population features. This appears to be accurate in the case of Middlesex County. While the overall population has increased, total school enrollment decreased slightly in the early eighties and has remained fairly constant for the past several years. This supports to some degree the conclusion that those people moving into the County do not include many school-aged children or adults of child-rearing age. Additionally, the median age of the County's population is thirty-nine and eight tenths (39.8) years as compared to twenty-nine and eight tenths (29.8) years for the state. Yearly totals for school enrollment are listed in the following table.

TABLE 30  
MIDDLESEX COUNTY SCHOOL ENROLLMENT, 1979-1989

<u>Year</u>	<u>Total</u>
1979-80	1,312
1980-81	1,257
1981-82	1,164
1982-83	1,160
1983-84	1,154
1984-85	1,172
1985-86	1,166
1986-87	1,155
1987-88	1,166
1988-89	1,170

Source: Middlesex County School Board

Natural Increase

Natural increase is the number of live births divided by the number of deaths. Middlesex County has been experiencing a negative rate of natural increase for several years. The birth rate is below the state average, and the death rate is significantly higher. This can be attributed to the out-migration of the young-adults of child-bearing age and the in-migration of older retirees who, consequently, contribute to the increased death rate. Birth and death rate statistics for the County and state are exhibited in the following table.

TABLE 31  
NATURAL INCREASE STATISTICS

<u>Year</u>	<u>County</u>		<u>State</u>	
	<u>Live Births*</u>	<u>Deaths</u>	<u>Live Births</u>	<u>Deaths</u>
1982	11.3	13.0	14.0	7.7
1983	12.3	14.6	14.9	7.9
1984	10.7	12.7	14.8	7.9
1985	13.7	12.6	15.0	7.9
1986	11.2	13.4	15.0	8.0

\*Number live births x 1,000.

Source: Virginia Department of Health Annual Report

Both the birth rate and the death rate for the County have been fairly constant from year to year. However, as can be seen from the table, the County's birth rate is below that for the state while the death rate is

considerably higher. The negative natural increase combined with the in-migration of retirees contributes to the higher median age and the decline in school enrollment.

#### Urbanna

Due in part to its status as the County's only incorporated jurisdiction reference has been made to the Town of Urbanna at various places earlier in this report. In keeping with that practice the following data concerning the population of Urbanna is presented.

#### POPULATION 1930-80

	<u>1930</u>	<u>1940</u>	<u>1950</u>	<u>1960</u>	<u>1970</u>	<u>1980</u>
Town/Urbanna	432	482	505	512	475	591

The above figures demonstrate the fluctuation which has occurred in the Town's population over the years. From 1930 to 1950 the population grew steadily, slowed in the 50's, dropped considerably in the 60's but increased impressively between 1970 and 1980.

A table showing distribution by age and sex for the period 1970 to 1980 is listed on the following page.

TABLE 32  
AGE-SEX DISTRIBUTION-URBANNA 1970-80

	<u>Number</u>		<u>Percentage</u>	
	<u>1970</u>	<u>1980</u>	<u>1970</u>	<u>1980</u>
Male Under 5	12	22	2.5	3.7
5-19	58	35	12.2	5.9
20-34	26	67	5.5	11.3
35-54	70	59	14.7	10.0
55-64	28	38	5.9	6.4
65-Over	32	64	6.7	10.9
Total	226	285	47.5	48.2
Female Under 5	10	12	2.1	2.0
5-19	49	46	10.3	7.8
20-34	31	56	6.5	9.5
35-54	64	68	13.5	11.5
55-64	41	38	8.6	6.4
65-Over	54	86	11.4	14.6
Total	249	306	52.5	51.8

A large number of homes within the Town limits are older homes in which older couples, widows and widowers reside. Although young families and new homes are entering the area, many are outside of the actual Town limits.

## Chapter 6

### Public Services and Facilities

#### Education

Middlesex County operates four (4) accredited public schools: Middlesex County High School at Saluda, housing grades eight through twelve (8-12); St. Claire Walker Intermediate School at Cook's Corner, grades six and seven (6-7); Rappahannock Elementary School at Cook's Corner, grades K through five (K-5); and Wilton Elementary School at Wilton, including grades K through three (K-3).

For the 1988-89 school year, the total student enrollment in the public school system was 1,170. This figure is slightly lower than the 1979-80 school year, however, the school population appears to have stabilized during the intervening years. Enrollment for each school facility is listed in the following table.

TABLE 33

#### Middlesex County Public Schools, 1988-89

	<u>Enroll- ment</u>	<u>Class- room Teachers</u>	<u>Admini- strators</u>	<u>Aides</u>	<u>Support Staff</u>
Wilton Elem.	177	8.5	0.5	3	2
Rappahannock Elem.	374	26.0	1.0	5	3
St. Clare Walker	187	11.5	.5	1	2
Middlesex High	428	34.0	2.0	0	5

\*Secretarial and custodial employees.

Source: Middlesex County School Board

#### Health and Welfare

In addition to the medical services and facilities located within a convenient commuting distance for Middlesex residents, several services are available within the County. Middlesex residents have available the services of two (2) general practitioners, a general surgeon, six (6) dentists, and four (4) pharmacies. The

County Health Department, located at Cook's Corner, is staffed by a director, an administrator, two (2) nurses, a clinic nurse, and two (2) clerks. Programs include the following clinics on a regularly scheduled basis: x-ray, family planning, maternal and child health, immunization, pediatric, and medicaid screening. Two (2) sanitarians are also on staff at the Health Department.

Operating on an ability-to-pay basis in accordance with a state scale, the Health Department serves those County residents who otherwise could not afford medical service.

While there are no hospitals within Middlesex County, two (2) hospitals have been constructed in close proximity. The Rappahannock General Hospital is located just outside Kilmarnock in Lancaster County, and Riverside-Middle Peninsula Hospital is located near Gloucester Courthouse in Gloucester County. In addition to these hospitals, major medical centers are available at Richmond, Newport News, and Norfolk.

Two (2) facilities offering services principally to the elderly are the Mizpah Health Care Center located at Locust Hill and the Saluda Convalescent Center in Saluda. Each of these facilities houses in excess of sixty (60) beds and generally operates at full occupancy. Similar facilities have been constructed and are operating in adjacent counties.

Located just outside the Town of Urbanna, the Middlesex County Department of Social Services has a staff of eight (8), comprised of a director, two (2) social workers, two (2) eligibility workers, and three (3) clerks. The Department administers the Food Stamp Program under the direction of the U.S. Department of Agriculture. Department of Health, Education, and Welfare Programs include Aid to Families of Dependent Children, Auxiliary Grants for the Elderly and Disabled, and General Relief Funds Programs. Child Protective Services, including foster care and state adoption services, are also available to County residents through the Department.

#### Safety

Police protection is provided for County residents by the Sheriff's Department located in Saluda. The Department is staffed by the sheriff, one (1) part-time and six (6) full-time deputies, a secretary, and one (1) part-time and four (4) full-time dispatchers. The Department has six law enforcement vehicles equipped with radios. In addition, the Town of Urbanna has a patrolman and one radio-equipped vehicle. These departments cooperate with other localities in the Middle Peninsula in classroom and on-the-job training programs. Middlesex

County is also involved in a reciprocal agreement of all Middle Peninsula Counties to aid and cooperate with each other in the event of any natural or man-made disaster emergency situation. The Middle Peninsula Regional Security Center, which serves five (5) counties, is located in Saluda.

#### Emergency Services

Middlesex County residents are served by two (2) volunteer rescue squads and four volunteer fire departments. The Middlesex Volunteer Rescue Squad is located in Deltaville and the Central Middlesex Volunteer Rescue Squad is located in Urbanna.

Volunteer fire departments are located at Deltaville, Hartfield, Waterview, and Urbanna. The Middlesex Department is made up of the Waterview and Urbanna companies and the Lower Middlesex Department is comprised of the Hartfield and Deltaville companies. While these organizations receive budgetary support from state and county sources, they must rely principally on the donated time of volunteers and the financial contributions of County residents.

#### Waste Disposal and Public Utilities

A sixty (60) acre public sanitary landfill located at Stormont is operated by the County. The facility is inspected monthly by the Bureau of Solid Waste. Waste collection sites are located at convenient points throughout the County.

The central water supply system in the community of Saluda has, as its source, a private well and is operated by a private company. Christchurch School has a private central water and sewage treatment facility as does the Mizpah Health Care Center. Additional private systems are also operated within the County.

The Town of Urbanna operates public water and sewage treatment systems. The water system operates from three wells with a design capacity of eight hundred and twenty (820) gallons per minute. The sewage system operates on the contract stabilization treatment type through seven (7) lift stations. These systems serve a permanent year-round population of approximately fifteen hundred (1500) customers.

#### Public Libraries

The Middlesex Public Library operates two facilities in the County. The main library, housed in an historic tobacco warehouse, is located in the Town of Urbanna, and a branch is located at Deltaville. The Urbanna facility contains approximately ten thousand (10,000) volumes and is open to the public forty (40) hours per week. The

Deltaville branch offers approximately three thousand (3,000) volumes and twenty-three (23) hours per week of operation to local residents.

#### Recreation

Middlesex County's extensive shoreline has made it a favorite location for water enthusiasts. Two (2) rivers, the Rappahannock and the Piankatank, along with the Chesapeake Bay make up its shoreline. These bodies of water provide an almost endless array of water sports possibilities. There are numerous sailing, powerboat, and fishing clubs and associations within the County. These organizations attract hundreds of visitors to the area each season. More information and discussion concerning recreation and tourism and its importance to the local economy will be provided later in the Plan.

Although the majority of the County is bounded by water, public access is extremely limited. The County has just recently completed development of a public beach, Canoe House Landing, located on the Rappahannock River. This is the only public bathing beach in the County. Generally, bathing access is limited to private waterfront properties.

Several public boat launching ramps are located throughout the County, operated by the Virginia Department of Game and Inland Fisheries. These are confined to the Bay area and the Rappahannock River. Presently, no public launching ramps exist on the Piankatank River.

A survey of all public landings located within the County was recently completed. Information concerning the physical state of each landing, e.g. amount of land involved, present level of development, etc., was recorded for each site. The potential use of these sites to provide public access to the Chesapeake Bay and its tributaries will be addressed in more detail later in this Plan.

## Chapter 7

### Economy

A central theme in the Comprehensive Plan for Middlesex County is the desire to insure and promote a sound, healthy local economy. Economic well-being is equal in importance to other factors determining the quality of life enjoyed by County residents. The ability of County government to provide the public services which contribute so significantly to a satisfactory living environment rests heavily on the level of local economic activity. This section of the Plan will examine those facets of the economy which tend to serve as indicators of change.

Perhaps a word of caution is appropriate at this point. The principal sources of data for this chapter are the U.S. Bureau of the Census, General Social and Economic Characteristics, Virginia, 1980, and reports and publications prepared by the Virginia Employment Commission, Division of Research and Analysis. Considerable effort has been expended throughout the Plan to insure that current and accurate information has been utilized; however, in the area of economic activity, a number of factors impact on the data. Generally, in this chapter, the data are used primarily to establish a trend rather than to establish an accurate count.

#### General Economic Trends

While Middlesex cannot be classified as a "bedroom community", a substantial and increasing percentage of County residents commute to work outside of the area. The most obvious factor impacting on commuting patterns is the improvements which have been made to the region's system of highways in the past years. Other things such as the removal of bridge tolls and the establishment of "rideshare" programs have also had an impact. The following table illustrates the number and percentage of individuals working within the County and those who commute to jobs elsewhere.

TABLE 34  
PLACE OF EMPLOYMENT--1960, 1970, 1980

	<u>1960</u>	<u>1970</u>	<u>1980</u>
Total resident workers reporting to a place of work	1999	2031	2908
Total employed in Middlesex County	1660	1509	1982
Total Out-Commuters	339	522	926
Percentage of resident workers commuting outside County			
Middlesex County	83.0%	74.3%	68.2%
Out-Commuters	17.0%	25.7%	31.8%

Source: U.S. Bureau of Census, General Social and Economic Characteristics

The number of "out-commuters" is expected to continue to increase over the coming years. As previously noted, Middlesex County has grown steadily in popularity as a recreation and retirement community. In addition, an increasing number of individuals are building a new home or purchasing an already existing home prior to retirement. Having made the decision, they will then move to the County and commute to a metropolitan area to continue their employment. Additionally, many people own second homes in the County, and, after several years of vacationing in the area, choose to make it their permanent residence and commute to their jobs. The decision of these individuals along with increasing numbers of retirees, has had a very positive impact on the construction segment of the County's economy. For instance, the number of workers employed in construction increased by eighty-two (82%) from the period of 1971 to 1980. A more detailed discussion regarding construction employment will follow later in the Plan.

Although information concerning occupational patterns of residents is not readily available for earlier years, it is generally agreed that the local economy has reflected the change taking place throughout the nation. As educational and training opportunities have increased and as industry has become more technically-oriented, the occupations of the County residents have been affected accordingly.

The following table lists the areas of occupation with totals for 1980.

TABLE 35  
OCCUPATIONS OF MIDDLESEX COUNTY RESIDENTS--1980

Managerial and Professional Middlesex County	3,102	100%
Managerial and Professional	515	.17%
Technical and Sales	832	.27%
Service Occupations	413	.13%
Farming, Forestry, and Fishing	257	.08%
Precision Production and Repair	436	.14%
Operators, Fabricators, and Laborers	649	.21%

Source: U.S. Bureau of Census, General Social and  
Economic Characteristics

In 1980, the County's labor force demonstrated an unemployment rate of three and eight tenths percent (3.8%). During 1987, the most current year available, the figure stood at the same level of 3.8%. The average number of persons employed in 1980 stood at 3,102 and at 3,182 for 1987.

#### Employment Sectors

There are no single large firms which dominate the employment market in Middlesex County. By far, the majority of firms in the County employ ten (10) or less workers. Some few firms engaged in food processing or textile products fall in the twenty to fifty (20-50) employee range. However, in the past decade, government has played an increasingly important role in local employment. One relatively new agency falls in the fifty to ninety-nine (50-99) range, while another has a range of twenty to forty-nine (20-49).

Basic Employment Sectors. Historically, industries regarded as basic to the County's economy have been lumber, transportation equipment, food processing, apparel, fisheries, and agriculture. Supporting occupations are construction, transportation and public utilities, wholesale and retail trade, finance, insurance and real estate, and government. As can be seen from the information presented in Table 36, growth in the supporting employment category has been substantial. Employment increased from a level of 1,035 in 1970 to 2,167 in 1980.

Employment in the basic industries has shown relatively little change from the period of 1970 through much of the 1980's. Over the decade of the seventies, employment in all basic industries changed approximately one percent (1%). Conversely, growth in employment in the supporting industries sector demonstrated a change of some

fifty-two and two tenths percent (52.2%) for the same period.

TABLE 36  
EMPLOYMENT BY INDUSTRY--MIDDLESEX COUNTY

<u>Basic Industries</u>	<u>1970</u>	<u>1980</u>
Lumber	102	104
Transportation Equipment	60	167
Food Processing	153	145
Other Manufacturing	25	127
Forestry Fisheries	191	90
Agriculture	230	206
Other Basic Employment	84	96
Sub-Total	845	935
<u>Supporting Industries</u>		
Construction	22	119
Transportation Public Utilities	18	136
Wholesale Trade	*217	147
Retail Trade		509
Finance, Insurance, Real Estate	46	109
Services	151	339
Government	223	578
Other Supporting Employment	358	230
Sub-Total	1,035	2,167
Total	1,880	3,102

\*Figure serves for Wholesale and Retail Trade together.

Source: U.S. Bureau of the Census, General Social and Economic Characteristics, 1980.  
Virginia Employment Commission.

A closer examination of each of the industries that make up these two (2) major categories will indicate the change which has occurred in the decade between 1970 and 1980. Conditions reported in the Middlesex County Comprehensive Plan--1977 indicated that employment in the lumber producing industry had reached a plateau of some one hundred (100) employees. Forecasts at the time suggested that employment levels would remain at around the one hundred mark through 1980. Figures presented in Table 36 above tend to confirm the prediction.

Food processing in the County is virtually all seafood with the bulk being crabs and oysters. While the

industry is susceptible to a number of natural occurrences which affect supply, employment has remained fairly stable. During periods when local supplies are low, processors import seafood from other areas. The future of this industry may well hinge on current efforts to reduce pollution in the Chesapeake Bay and its tributaries.

Employment in transportation equipment is largely involved in the construction, repair, and maintenance of boats. During the ten (10) year period, employment increased by sixty-four percent (64%); however, recent reductions in employment by at least one (1) large firm will no doubt impact significantly on this sector of the economy. As indicated earlier in this report, Middlesex County is reflecting and/or responding to trends occurring in the national economy. The County is attracting increasing numbers of retired persons who have the financial capability to own and maintain a boat. In addition, the area has experienced a steady increase in popularity as a water sports recreation area. These two (2) factors should help to provide a stable climate for employment with moderate growth in the coming years.

During the period of 1950 to 1960, employment in agriculture was cut in half--from 608 to 300. Since that date, employment has decreased steadily but at a modest rate. As can be seen from information presented in Tables 6 and 7 earlier in this report, the number of farms in the County has declined steadily since 1959, however, at the same time, the average size of the farm has increased. The number of acres assigned to various farming functions such as harvested cropland has remained largely unchanged from the 1974 level of 15,880 acres. Harvested cropland totaled approximately 12,510 acres in 1964. Once again, Middlesex County is reflecting a national trend which is occurring in the agriculture industry--that of increased size of farms as well as increased mechanization. These factors, among others, have contributed to decreased levels of employment in farming. It has also been noted earlier that agricultural production in the County is being maintained.

While Middlesex County producers engage in all aspects of farming, grain (mostly wheat, corn, and soybeans) is the leading source of farm income. In 1978, total farm income was approximately five and one-half (5.5) million dollars, and grain accounted for forty-one percent (41%) of the total. In the farm statistics report prepared by the USDA Statistical Reporting Service and the Virginia Department of Agriculture and Consumer Services, 1982, is shown a steady increase in total acres and yield per acre in the production of corn, wheat, and soybeans.

Supporting Employment Sectors. Employment in the supporting industries sector demonstrated a significant rate of change during the period 1970 to 1980. Total employment in this sector stood at 1,035 in 1970 and rose to 2,167 in 1980 for a rate of growth of approximately fifty-two percent (52%). Each of the supporting industry groups experienced a positive rate of growth with the exception of "Other Supporting". This group is comprised of self-employed persons such as carpenters, fishermen, and laborers not included in other categories such as manufacturing, agriculture, or fisheries. Factors such as technical changes in the reporting of data may account for some variation.

Employment in construction has shown a continuous upward trend since the early seventies. A demand for housing has been created as the County grows in popularity as a recreation and retirement community. This demand created jobs in construction as well as supporting and related industries. The category of Finance, Insurance, and Real Estate grew from a 1970 level of forty-six to one hundred and nine (46 to 109) in 1980; a rate of increase of approximately fifty-eight percent (58%).

The growth in the category of Transportation and Public Utilities is reflective of the use being made of one of the County's natural resources. Water has long played an important role in the economic life of the area. While employment in commercial fishing has been declining, recreational boating has continued to grow. New marinas have been built, and the industry, in general, is exhibiting a trend toward continued growth. It will be noted later in the Comprehensive Plan that several facets of the County's economy should be singled out for additional study; Transportation Equipment and Transportation and Public Utilities are two such areas.

Trade, both wholesale and retail, are playing an increasingly important role in the County's economic activity. Together, the two activities demonstrated a sixty-seven percent (67%) increase in employment between 1970 and 1980. The Comprehensive Plan developed for Middlesex in 1977 indicated a decline of some twenty-two (22) percent in the number of retail establishments between the period of 1958 and 1972. Employment had risen by fifty-seven percent (57%) for the same period indicating that "larger establishments employing more people were doing a larger volume of business". While consideration must be allowed for technical changes in reporting methodologies, it can be assumed the trend continued through much of the past decade. The Virginia Employment Commission, which compiles data on firms covered by the State Unemployment Tax Program, reported a total of fifty-two (52) retail establishments for the County in 1987

as compared to eighty-eight (88) reported in the Comprehensive Plan for 1972. These figures indicate a reduction of some forty-one percent in the number of retail establishments. The Virginia Department of Taxation reported taxable sales for Middlesex County of \$21,517,000 in 1983 as compared to \$9,497,000 in 1972 or an increase of fifty-five and eight tenths percent (55.8%).

Growth in the area of services has risen substantially through the decade of the seventies. This category includes employment in clinics, doctors' offices, nursing homes, various repair shops, etc. Two (2) nursing homes were constructed during this period, each employing in excess of fifty (50) persons. In general, as population rises, the demand for services increases, and new businesses are formed to satisfy the demand. It is anticipated that the service sector of the County's economy will continue to expand in the coming years.

The 1977 Middlesex County Comprehensive Plan projected an increase in government employment of some thirty percent (30%). The growth rate was twice the projection at approximately sixty-one percent (61%). Agencies such as the local office of the Virginia Department of Transportation, the Middlesex County School System, as well as local social services agencies are some of the County's largest employers. As the population increases and the need for public services rises, government agencies will respond by employing more people. County government, outside the area of education, experienced little if any growth in employment in recent years. The situation is not expected to remain static. Here again the demand for services is expected to increase which ultimately must impact on employment.

#### Summary

Sources for data appearing in this chapter were the Virginia Employment Commission, the Virginia Department of Taxation, and the U.S. Bureau of the Census. It should be noted that use of the data was principally to establish a trend within a certain area of employment or economic activity rather than to determine an accurate count.

When writing this chapter, comparisons have been made wherever possible between the years of 1970 and 1980. Since the time the original Comprehensive Plan several changes have occurred in the way in which data are compiled and reported. Several studies and publications have either been discontinued completely or substantially altered in format to the point where comparisons cannot be drawn.

## Chapter 8

### ISSUES IDENTIFIED FOR PLANNING

#### General

The preceding chapters of the Comprehensive Plan have dealt with updating and verifying data which, when analyzed offers insight into changes in patterns of growth in the County. These trends, or patterns, can be identified by investigating such areas as changes in community settlement patterns, population growth and shifts, and highway traffic counts. Data which show levels of activity in the industrial and commercial sectors of the economy are also vital to sound planning.

#### Population Growth

The population of Middlesex County has demonstrated a steady positive rate of growth since the early seventies. Prior to that time, the County experienced a number of changes. From 1910 to 1940, population declined at a steady rate with the County losing in excess of two thousand (+2,000) persons. For the next twenty (20) years, the population experienced an era of relative stability followed by a period of erratic change during the early sixties.

Estimates for 1986 for Middlesex County by the Center for Public Studies, University of Virginia, places the population at 8,700 with a projected level of 9,900 by the year 2000. These estimates are subject to frequent revision and are considered, for the purposes of this report, to be as equally important in terms of indicating a trend as establishing an accurate count.

The above figures, based on 1980 Census data, may be conservative. As noted earlier in Chapter 3, there has been a significant increase in the issuance of building permits for new homes in all areas of the County but especially in the eastern portion. While many of these houses are being built as "second" homes and by retirees, there is growing evidence that many younger families are willing to commute long distances to jobs outside the area. Improved highways such as Interstate 64 and the dual laneing of much of Highway 17 and 33 have made it possible for many individuals to live in Middlesex County and commute to jobs in Richmond, Williamsburg, and the Tidewater Area. These factors, coupled with a national tendency for many families to move away from urban areas, have contributed to the trend indicated in Table 33, Chapter 7, of a steady rise in the percentage of commuters. Further, the establishment of Rappahannock

Community College has enabled a growing number of young people to obtain further education while remaining in the area.

It has already been recognized and noted earlier in this report that Middlesex County will experience further growth. The assumption is based on the continued existence of a healthy national economy as well as indicators in the local economy which respond to and often mirror national trends. The remaining portion of this chapter will identify issues considered to be of a prominent nature and which County officials and citizens need to solve in coming years.

#### Tourism and Recreational Facilities

Throughout the Comprehensive Plan, constant reference is made concerning the extent of shoreline and, in general, the proximity of the area to surrounding waters. Regardless of the context of the reference, it is universally agreed that just as Middlesex County's past has been tied to the water, so, too, is its future. While it is obvious that other factors must be considered, it is the presence of water which has given rise to the increased level of economic activity.

Over the past several years, the tourism industry throughout the United States has grown at an impressive rate. In the report, Travel in Virginia, an Economic Analysis--1987, prepared by the Virginia Division of Tourism, it was reported that travelers spent \$6.1 billion on travel expenditures in the state for that year. This figure represented an increase of fifteen percent (15%) over the previous year. Tourist expenditures in Middlesex County were estimated to be \$5.0 million, which generated eighty-two (82) jobs and \$35,000 in tax receipts.

If properly planned and executed, the County stands to benefit substantially from a program of tourism development. The figures presented above represent a significant industry within Middlesex and certainly one with an expanding potential for development. An additional incentive for planning in this area is the location of Middlesex County. It is located within convenient commuting distance of several large concentrations of population. The combined population of Northern Virginia, Richmond, and Norfolk has been estimated at 3,380,400 people. Further, this population has an estimated high level of disposable income.

#### Recreational Facilities

As the population of the County increases, the availability of land suitable for public recreation diminishes. Properties which might currently be available through donation or at a reasonable cost to the taxpayer

will be basically lost forever when converted to residential or commercial use. As the County becomes more developed and population density increases, the need for open-space or park areas becomes more intense.

In addition to park and recreation facilities, there is a serious lack of public access to the water by both residents and visitors alike. As more and more waterfront land is privately developed, less is available potentially for development by the County for public use. The Comprehensive Plan written in 1977 expresses concern about the lack of public access to the water and cites the need for development in this area.

A recently completed survey identified some twenty-three (23) public landings in the County. Some are already in use as boat launching facilities, and at least two (2) have been further developed. The majority are however, undeveloped and unavailable for public use. In 1987, the County developed its first and only public beach, Cande House Landing. Developed on the site of a former public landing, the facility represents an excellent example of what can be accomplished.

The two (2) areas of Tourism and Recreation are of crucial importance. Tourism offers the County an opportunity to expand its economy and, ultimately, the tax base. Conversely, as all segments of the economy expand, the opportunity for the County to create public recreational facilities diminishes. Each of the two (2) areas should be the subject of immediate study. It is suggested that the County Administration give consideration to the creation of an appropriate mechanism to conduct an in-depth investigation of these areas.

#### Chesapeake Bay Preservation Areas

During its 1988 Session, the Virginia General Assembly passed the Chesapeake Bay Preservation Act. This bill will impact substantially on the manner in which Middlesex County determines the policies which govern the use of lands that border the Chesapeake Bay and its tributaries.

The Act requires all political jurisdictions located in "Tidewater, Virginia" to "establish programs, in accordance with criteria established by the Commonwealth that define and protect certain lands, hereinafter called Chesapeake Bay Preservation Areas". Further stipulations require the designated local governments to incorporate general water quality protection measures into their comprehensive plans, zoning ordinances, and subdivision ordinances.

Recognizing the importance of this legislation and the impact it will no doubt have on the future growth and development of Middlesex County the County Administrator and staff are making a concerted effort to keep abreast of all developments occurring in this crucial area. It should be emphasized that if the program is to be truly successful it must incorporate local efforts and expertise. It is therefore recommended that the Chesapeake Bay Local Assistance Board be requested to establish a task force composed of staff from the CBLAB, Counties, Planning District Commissions, and other appropriate organizations to insure inter-agency communication.

#### Trade and Services

The section of the Comprehensive Plan dealing with an analysis of the County's economy noted that the area of retail sales and the various areas of services represented one of the fastest growing segments of commercial activity. Retail sales grew from approximately nine and one-half (9.5) million dollars in 1972 to thirty (30) million dollars in 1987. Employment posted an equally impressive gain. The analysis also cited the trend toward larger and fewer establishments selling larger volumes of merchandise with a larger number of employees per firm.

If other sectors of the economy continue to expand at expected rates, growth in the area of sales and services is likely to continue. Existing firms will be presented with an opportunity to expand and new ones to be established. One obvious and conspicuous opportunity is to serve shopping needs which are now being met by establishments outside the County.

Many County residents now shop for certain goods and services in the urban centers of Hampton; Newport News; Richmond; and to some extent, Gloucester and Tappahannock. There are strong indicators that a market now exists for a modest size shopping center which offers goods and services not currently available in the County. While it is recognized that the construction of shopping facilities will provide a recognized need, each proposed project should be the subject of careful scrutiny by both County officials and residents alike.

#### Highways 17, 33, and 3

These three routes provide the primary transportation linkage to outside market areas and the principal routes of ingress and egress to the County. Presently, these routes are experiencing only minimal development; although, at numerous points, average daily traffic counts have nearly doubled. Currently, development along these routes does not pose a problem. Experience has shown in more urbanized areas, that by the time a highway is suspected of creating problems, it is too late to attempt remedial action.

As Middlesex County continues to develop, the manner in which growth occurs will be of vital concern. Continued high volumes of daily traffic combined with extensive commercial strip development will seriously affect the efficiency of these routes.

It is seriously recommended that the County establish policies for future development along Routes 17, 33 and 3 as quickly as practicable in order to avoid attempting to deal with the problems later as an accomplished fact.

#### Public Water and Sewer Facilities

As the population of Middlesex County expands and residential density intensifies, the demand for potable water will increase. Currently, underground aquifers are the source of all domestic and industrial water supplies in the County. Recent studies prepared by the Virginia State Water Control Board indicate that adequate groundwater supplies exist for the population centers of the Town of Urbanna and the community of Saluda. The areas of Deltaville and Stingray Point have been the object of concern by planners, County officials, and citizens for several years. These areas have experienced considerable growth for some time and presently are the fastest growing sections of the County. The aquifers which serve the area and which are currently productive may be subject to problems of overuse in the future. The need for sewer facilities is also often directly linked to concentrations of residential and commercial growth.

Middlesex County is subject to the provisions of the Chesapeake Bay Preservation Act and, therefore, must demonstrate how it intends to prevent and/or curtail pollution of the Bay and its tributaries. While it is understood that pollution originates from numerous sources, each of the sources should be investigated as thoroughly as possible should the opportunity arise.

The Act stipulates that "the Commonwealth make its resources available to local governing bodies by providing financial and technical assistance" when implementing the various provisions. It is anticipated the County may be presented with various avenues of dealing with the problems of pollution from the ability to conduct research and develop plans to the implementation of a specific course of action.

Both of these areas are extremely important to the future of Middlesex County. Further growth and development may well hinge on the County's ability to provide these facilities and services to its citizens. If the County is to avoid being placed in a "reactionary position", it should begin the development of county-wide water and sewer plans immediately.

### Housing Rehabilitations

The following table utilizes data from the 1980 census concerning the housing stock of Middlesex County.

1.	Total Housing Units	4936
2.	Total Year Round Units	3509
3.	Total Year Round Units Lacking Complete Kitchens	293
4.	Total Year Round Units Lacking Complete Bathroom Facilities	366

### Magisterial Districts

	Jamaica	Pinetop	Saluda
1.	724	2755	1457
2.	517	1713	1279
3.	66	119	108
4.	94	111	161

Of the total units 659 lack either a complete kitchen or bathroom.

Funds are presently available through programs administered by the Department of Housing and Community Development which will enable the County to research, plan and implement a housing rehabilitation program. The program is intended to assist the homeowners to make their homes decent, safe, and energy efficient as well as to extend their economic life. Major improvements may include such things as the installation of complete plumbing systems, electrical systems and the provision of potable water. Structural problems which may be hazardous, energy inefficient, or detrimental to the health of the occupant may also be included in the program. The program may be designed to be simple and flexible with emphasis on effectiveness.

It is recommended that the County explore these and other programs as possible funding sources for improving deficient housing conditions.

### Industrial Development

Middlesex County is presently experiencing a period of economic and social growth. In virtually every area investigated during the research and analysis section of the Plan a significant rate of increase was evident. In some instances comparisons of data could not be made due to changes in reporting procedures. This in no way diminishes the accuracy of the overall conclusion that the County is expanding. Thus far the growth which is occurring is in areas for which preliminary planning has been accomplished. Administrative procedures have been developed for controlling, to the extent possible, its impact.

To date little if any planning has been directed toward industrial development. This is easy to comprehend when taking into account the past rural nature of the County. As noted earlier in this report several factors combined to keep Middlesex in a relatively isolated situation. Factors such as improved highways, an airport, and an apparent preference for country living are presently combining to fuel a growth cycle for the County. This renewed growth will at some point in the future give rise to a need for some form of industrial development.

There are several benefits derived to the County through the location of a new manufacturing plant. The first obvious benefit is increased employment opportunities for local citizens. Increased personal income means increased local commerce which provides for the expansion of local businesses and the creation of new ones. These factors all combine to contribute to a stronger tax base which enables the County to provide the public services which contribute to a pleasant living environment.

Although competition among communities for clean light industries is very intense, Middlesex already has in place very important tools to encourage and manage economic growth such as the Comprehensive Plan which is further complimented by a Zoning Ordinance. Recommended in the current plan is the further development of a Capital Improvements Program. These three (3) tools, when completed, will see the County even further along in terms of planning, organization, and preparation; the three essential ingredients for a successful Industrial Development Program.

To be successful in its efforts the County will need to organize for the task ahead. It is recommended that an Industrial Development Authority be established to plan, coordinate, and implement an Industrial Development Program for Middlesex County. This effort should be started at the earliest possible date.

### Capital Improvement Program

The process of budgeting for items that are expected to have a life span of several years and generally have significant costs is entitled a Capital Improvement Program (CIP). Because of extended service expectancy and cost, capital projects are not usually included in a community's Annual Operating Budget. Capital projects generally involve the purchase or improvement of buildings or land, major equipment and vehicle purchases. Other examples include parks, schools, police vehicles, computers, refuse collection vehicles and containers, and planning and engineering studies.

Involved in and crucial to the capital improvement planning process is the identification of needed projects followed by a ranking of each project in an order of priority. Proposed projects are then listed in the Capital Improvement Program along with the year projects will be started, the amount expected to be spent in each year, and the proposed method of financing.

A Capital Improvement Program is an important management tool of a community because it affords a systematic approach to planning and financing capital projects which fosters sound rational management of community resources. In addition the process provides an opportunity to project major expenditures for public improvements and to establish a deliberate and reasonable schedule for constructing and financing those projects over several years.

Capital improvement programming is an extremely important adjunct to the planning process and as such provides an excellent tool for implementing a community's Comprehensive Plan. It is strongly recommended that this item be assigned a high priority as the work program for the next planning cycle is developed.

Middlesex County has been developing a Capital Improvement Program for several years. By setting aside funds within the budget that are earmarked for specific projects which are to be funded within a given time frame the County has been practicing the basic tenets of capital programming. The process described above will help to formalize the process and add a further element of planning.

## Chapter 9

### Goals and Objectives

The determination of desired future conditions is an important step in the development of a Comprehensive Plan. In so doing, a community establishes a proposed level of attainment which it hopes to achieve for its citizens. The community must then develop a series of action plans designed to achieve the desired future state. The plans must address a multitude of issues and must attempt to be responsive to a diverse population with a broad range of opinions. The goals and objectives set forth in this segment of the Comprehensive Plan cover a wide range of community development issues and hopefully reflect the thinking and input of both the public and private sectors of the County.

The goal and objectives were developed in accordance with the following terminology and definitions:

Goal: A general statement of a future condition which is considered desirable for the community; it is an end toward which actions are aimed.

Objective: A clear statement of a way in which a goal is to be reached; it refers to some specific accomplishment which is reasonably attainable.

Every effort has been made to insure that the goals and objectives set forth in the Middlesex County Comprehensive Plan are realistic and offer reasonably attainable levels of performance. While these goals and objectives provide the basic guidance for the County's planning and community development efforts they should also be the subject of continuing discussion and scrutiny to insure continuity between planning and implementation.

### GOALS AND OBJECTIVES

#### Overall Goals

Enhance and protect the present rural character of Middlesex County and ensure that development which occurs compliments that rural character and is consistent with the ability of the land and all necessary utility systems, both public and private, to sustain and support that growth.

Guide and encourage the coordinated, balanced, and harmonious development of Middlesex County to ensure achievement of the highest possible quality living environment.

Encourage public participation in the planning and decision-making process to ensure that proposed and implemented programs and causes of action reflect the wishes of the community.

#### Objectives

Foster policies and programs which ensure the well-being of Middlesex County citizens and the communities within which they reside.

Continue to define and delineate the physical characteristics of Middlesex County in order to further refine recommended uses and densities.

Promote and develop recreational, cultural, and open-space facilities for Middlesex County citizens.

To the extent practicable, preserve and promote a desirable visual environment.

Strengthen the economic tax base of the County through the use of all appropriate methods.

### ENVIRONMENT

#### Goal

Ensure the protection and stability of the natural and man-made environment of Middlesex County by encouraging growth to occur in accordance with the Comprehensive Plan.

#### Objectives

Recognize the limitations of the land to support, at varying densities and intensities, differing uses and the levels of use at which environmental degradation occurs.

Protect the natural and rural character of the County by encouraging the retention of forests, agricultural lands, and open-space areas.

Encourage the conservation, enhancement and procurement of safe and adequate water supply areas, both above and below ground, for the future.

Protect rivers, marshes, wetlands, and other bodies of water, e.g. the Dragon Run System, from pollution, disturbance, and destruction.

Preserve, protect, and enhance the historic and architectural character of the County.

Enhance the natural beauty of the County by ensuring that new development is visually attractive.

#### COMMERCIAL

##### Goal

Provide opportunities for efficient and attractive commercial development which will supply the greatest possible range of goods and services to the community at appropriate, convenient, and safe locations.

##### Objectives

Ensure sufficient land areas are available for commercial development to serve existing and future demand.

Promote the clustering of commercial centers at appropriate locations avoiding the inherent problems associated with "strip" development.

Protect the natural environment to the greatest extent possible by encouraging commercial development which makes maximum use of natural amenities and thereby accentuates the rural aspects of the County.

Ensure a safe shopping environment through proper site plan design.

Provide consumers with opportunities to acquire goods and services in the most efficient and least costly manner possible by promoting clusters of commercial development.

Promote the use of landscaping, screening, and buffer zones as methods of ensuring a desirable visual environment.

## INDUSTRIAL

### Goal

Ensure the creation of an industrial base with sufficient diversity to provide employment opportunities to County residents without adversely affecting other land uses or the environment.

### Objectives

Promote the location of clean light industries within the County.

Provide for sufficient land areas designated as Light Industrial Districts to accommodate anticipated future development.

Encourage the preservation, expansion, and modernization of existing industries.

Promote attractive, well-designed industrial sites which project a positive image of Middlesex County as a desirable location for economic development.

Foster a diversity of light industrial uses which will help expand, at a stable rate, the tax base of the County.

## PUBLIC FACILITIES AND SERVICES

### Goal

Ensure the provision of adequate public facilities and services at appropriate locations to serve the needs of the community conveniently, efficiently, and economically.

### Objectives

Provide a positive impact on the direction of development through the location and provision of public utilities service.

Recognize the existing and anticipated need for public facilities based on present and future populations as outlined in the Comprehensive Plan and coordinate implementation accordingly.

Further develop and adopt, as a part of the Comprehensive Plan, a Capital Improvements Program to enable the County to operate in an anticipatory, rather than a reactionary, manner.

## RESIDENTIAL

### Goal

Promote decent, safe, affordable, and sanitary housing for all County residents.

### Objectives

Promote residential growth which will provide a variety of housing types so that low-, moderate-, middle-, and high-income households can find suitable housing.

Encourage residential development which provides primarily for single-family dwellings.

Promote residential development which concentrates in and around designated population centers in the County.

Encourage visually attractive residential development which fosters a pleasant and safe living environment.

Encourage the adoption of an ordinance which requires that buildings which are abandoned or found to be unsafe be removed or brought to standards as set forth in the Statewide Building Code.

## AGRICULTURE, FORESTRY, AND FISHING

### Goal

Preserve, protect, and enhance the agricultural, forestry, and fishing segments of the County's economic base.

### Objectives

Promote, protect, and enhance the quality of estuarine waters and their use as areas for shellfish propagation and marketing.

Protect and enhance productive fisheries.

Encourage implementation of programs which provide technical assistance in areas of management and reforestation to owners of forestlands.

Promote the establishment of programs for the reforestation of critically erodible crop and pasture lands as a method of preventing soil erosion and improving water quality.

Encourage the development of wildfire plans for existing and planned residential developments in heavily wooded areas.

Encourage the agricultural community to implement, whenever possible, the conservation techniques advocated under the Virginia Agricultural Best Management Practices Program as a means of controlling "non-point source pollution" and improving farm productivity and efficiency.

## RECREATION AND TOURISM

### Goal

Provide recreational, cultural, and open-space facilities for County residents and visitors while simultaneously contributing to the growth and expansion of the Middlesex County economy.

### Objectives

Encourage the establishment of a County-level committee to organize, plan, and implement an area-wide recreation and tourism program.

Investigate all avenues of obtaining land and/or buildings for the establishment of parks and recreation/entertainment facilities.

Recognize tourism as an industry and the financial contribution it can make to the local economy and to the County's tax base and the ability of an organized program to promote the image of the County.

## TRANSPORTATION

### Goals

Promote the development of an effective transportation system that will ensure the safe and efficient movement of people and goods between and within land use areas in Middlesex County as well as to areas outside of the County.

Foster the development of alternative transportation facilities, air, water, and mass transportation in the County.

### Objectives

Promote land use decisions which encourage residential development patterns that limit direct driveway access to County streets and Roads.

Encourage commercial and light industrial development patterns which concentrate these facilities in areas that provide convenient access to the motoring public and at the same time prevent the spread of strip development along highways.

Investigate and where appropriate, promote facilities which utilize air, water and highways for both private individuals and mass transit purposes.

## TOWN OF URBANNA

### Overall Goals

The fine assets of the Town with its unusual topography of land and water, its people and their life-styles, its summer recreational facilities, its diversified business community, and its small town charm and quality living shall be preserved and improved.

All future development in the Town shall be carefully guided in order to achieve and maintain the highest quality living environment possible.

All future development in the Town shall be located and designed in such a way that it complements existing development and provides maximum choice for present and future residents and businesses.

The Town shall persistently strive for public participation in the planning and decision-making process to ensure that the wishes of the community are translated into specific and measurable programs and courses of action.

## LAND USE AND NATURAL RESOURCES

### Goals

The Town's natural resources shall be recognized as community assets and afforded adequate protection.

The land use pattern of the Town shall preserve the present residential character of the Town without restraining reasonable commercial growth.

### Objectives

The Town's water resources of river and creeks shall be recognized as unique assets and shall be protected from increased levels of pollution and restored to acceptable levels of quality where possible. This should be done by regulating future shoreline activities and other pollution generating activities.

Destruction of trees during construction and development shall be kept to a minimum.

Natural drainage patterns shall not be altered or interfered with during construction and development unless absolutely necessary.

Shoreline erosion is a major problem in the Town and shall be dealt with in the future by encouraging lot owners to avoid actions with potentially adverse impacts on neighboring properties by seeking and utilizing professional advice concerning solutions which most effectively address the problem.

Single-family residential development and maintenance and the renovation of existing housing and businesses shall be encouraged in the future.

The commercial community of the Town shall be concentrated within the present commercial centers of the Town and further growth encouraged to locate along Virginia Street in a westerly direction.

## RESIDENTIAL

### Goal

Efficient, high-quality residential development shall be encouraged in the future.

### Objective

All residential development shall meet minimum standards for floor area, lot size, off-street parking, drainage, and landscaping in order to protect the values of surrounding residences.

## COMMERCIAL AND INDUSTRIAL

### Goal

Commerce and industry shall be encouraged in order to strengthen the Town's economic base and provide needed jobs for Town residents.

### Objectives

Existing businesses shall be encouraged to maintain and improve their appearances so as to preserve the attractiveness of the business district.

New businesses shall be clustered and provided with common off-street parking areas and with adequate lighting, drainage, and traffic flow patterns.

Preservation, expansion, and modernization of existing industries shall be encouraged.

The Town shall use its geographical location to good advantage by promoting water- and boating-related industries.

Non-nuisance light industries in enclosed buildings located on landscaped tracts shall be encouraged. Industries which cause environmental problems, including air and water pollution, or which would be particularly disharmonious with the natural setting of the Town shall be discouraged.

Tourism is an important industry in the Town and its expansion shall be encouraged.

## TRANSPORTATION

### Goal

The Town's transportation network shall be made adequate to serve residents and through traffic.

### Objectives

The Town shall identify present and anticipated trouble spots and work to have them corrected.

The Town shall make recommendations on needed improvements and expansions.

New streets and sidewalks necessitated by subdivision of land shall be provided by the subdivider or developer. Such streets and sidewalks shall meet minimum standards for width, and shall be dedicated to the Town upon completion.

The Town shall encourage alternative transportation facilities.

The Town shall explore and promote water and bus transportation facilities for its citizens.

## RECREATION, OPEN-SPACE AND HISTORIC PRESERVATION

### Goals

The Town shall provide its citizens with adequate recreation, cultural and open space facilities.

Historic buildings and landmarks in the Town shall be identified, preserved, and protected to guarantee their value and place in the heritage of the Town.

### Objectives

The Town park service shall be maintained and expanded.

The Town shall strive to provide public access to the waterfront, including boat landings and recreational facilities within the Town.

Historic buildings shall not be removed or damaged and, where needed, renovated or improved.

Areas adjacent to historic areas or buildings shall not be converted to uses which would damage or destroy the character of such historic areas.

## PUBLIC FACILITIES AND SERVICES

### Goals

The Town shall ensure that its citizens are provided with adequate and efficient services and facilities.

### Objectives

The Town shall continue to maintain and improve its central water and sewer systems.

The Town shall provide storm drainage to collect run-off from streets and parking lots.

The Town shall continuously monitor its waste collection system to ensure that adequate service is provided to Town residents.

The Town shall be conscious of the values of its library, rescue services and fire services and encourage the support and improvement of them.

Any extensions of Town water lines shall be of sufficient size and include a sufficient number of fire hydrants to improve fire fighting capabilities.

The Town shall provide adequate police protection for its citizens.

The Town shall locate and maintain a public boat dock.

#### VISUAL APPEARANCE

##### Goal

The scenic beauty of the Town shall be preserved and promoted.

##### Objectives

Scenic spots in the Town shall be appropriately identified and advertised.

Contributors to visual disorder shall be removed.

## Chapter 10

### The Land Use Plan

#### Land Use Designation

The land use designations used in developing the Middlesex County Land Use Plan are described in the following pages. While these designations were established in the County's 1977 Comprehensive Plan they are, with few modifications, still current.

Although these designations are general in nature they have provided guidance for the development of the Middlesex County Zoning Ordinance. The specific zoning regulations and zoning district locations and boundaries contained in the ordinance serve as an excellent tool for the implementation and management of the Comprehensive Plan. A general description of each of the districts is offered later in this chapter to assist the reader in gaining a familiarity with the ordinance. Copies of the zoning ordinance may be purchased from the Zoning Office and County staff members are available to answer questions and to provide assistance where appropriate.

As noted earlier a discussion of the general land use designations found in the Plan follows.

#### Conservation

This designation is intended to foster the recognition, protection, and preservation of areas of a sensitive and/or unique nature. Areas such as the Dragon Run System, major swamps, marshes, and islands are included in the designation.

The conservation designation indicates the commitment of County citizens to the proper management, protection, and use of environmentally sensitive areas. Permitted development must be done in a manner that minimizes, to the greatest extent possible, any negative impact on the environment.

#### Rural

Throughout much of the Comprehensive Plan the agrarian nature of Middlesex County is emphasized. The desire of the citizens to have the County retain a rural atmosphere is further reflected in the goals and objectives statement.

While it is generally recognized and accepted by residents of the County that development, especially residential, will occur it is preferable to have the development occur at relatively low levels of density.

Restrictions and regulations set forth in the zoning document should assist in the accomplishment of this goal by reflecting the most current and innovative ordinances in the field.

#### Prime Agricultural and Forestry

Certain areas of Middlesex County have been delineated on the Comprehensive Plan Map as prime lands for the purpose of forestry or crop production. The current zoning ordinance makes provision for a Resource Husbandry District which has as its principle goal reserving these lands for agricultural and forestry purposes.

#### Primary Residential

In the previous Comprehensive Plan the communities of Urbanna, Saluda, and Deltaville were classified as primary residential. Based upon current data concerning rates of growth and settlement patterns it is appropriate that these communities continue to receive this classification. In addition these communities serve as commercial centers for the County and to a lesser degree as centers for industrial activity.

It has been noted earlier in this report that the Town of Urbanna is the County's one incorporated area and that it operates its own municipal water and sewer facilities. In addition there are other communities in the County which operate either a central water and sewer treatment facility or both such as The Coves at Wilton Creek, Kilmers Point and Harbor House sub-divisions, and the village of Saluda.

These communities which possess, at varying levels, centralized services and facilities have attracted development in neighboring areas and are continuing to exhibit a steady rate of growth.

#### Secondary Residential

Several communities exist throughout the County that while the concentration of uses are noteworthy they lack the density to be designated primary residential areas. They have instead been classified as secondary residential. Examples of these communities are: Waterview, Remlik, Piankatank Shores, and Hartfield.

While each of the secondary residential communities has demonstrated a significant rate of growth all have not developed in the same manner. For instance, the Hartfield community, principally because of its physical location, has developed both commercial and residential uses while other communities in this classification have grown residentially. Assuming that the overall growth rate in the County continues, especially the eastern sector, there

is little doubt that additional commercial development will occur in the Hartfield area.

#### Commercial

Over much of the history of Middlesex County the communities of Saluda, Urbanna, and Deltaville have served as commercial centers as essentially they do today. However, centers of commercial activity are developing at two points on Route 33. The area of Cook's Corner at the intersection of Routes 33 and 227 has shown significant growth in recent years as has the Hartfield area which is located at the intersections of Route 33 and 3.

Projections for the increasing development of these two areas is based on several factors. Both Cook's Corner and Hartfield are located along Route 33 that provides access to the eastern portion of Middlesex. This portion of the County is presently experiencing the fastest rate of growth of any area in the County. A significant impact is being experienced based on population and residential construction. Traffic on Route 33 increased significantly during the period 1975 through 1986 due in part to the recreational aspects of Eastern Middlesex County. At each of the points along Route 33 for which the Virginia Department of Transportation maintains a record of traffic the average daily total traffic has increased at or near one hundred (100) percent.

The combined pressures of an increasing population, both year-round and seasonal, along with the resultant increase in traffic will foster an increased demand for goods and services. Historically, the business community has been quick to recognize and respond to opportunities for expansion and there is little reason to think the reaction here will be any different.

#### Industrial (Light)

Currently there are three areas designated as Light Industrial in the County. They are at or near Urbanna, Saluda, and Topping. These areas have also received the same designation in the County Zoning Ordinance and have been established as Light Industrial Districts.

#### Recreation

Facilities for public recreation in Middlesex County are fairly limited. Basically they include the public boat landings, a public boat dock, and the play fields associated with the County schools. In addition a public recreation area is maintained by the Deltaville community.

A recent study involving public landings in the County identified twenty-three sites. As it has been previously noted in Chapter 2, Land Use, the landings are in varying states of repair. Of the total however, four

have been improved and are open to the public. One, Canoe House Landing, has sufficient waterfront area to serve as a bathing beach and is the only such facility in the County.

## Urbanna

The Town of Urbanna as an incorporated area is individually governed and as such has its own zoning ordinance which is separate from that of the County. The following is a brief discussion of each of the districts to be found in the ordinance.

### Conservation

The marsh area on Perkins Creek and Urbanna Creek plus Jamison's Cove are designated as conservation areas. This is due to their value as habitats and feeding grounds for wildlife; as well as waterfowl, crustacea and finfish, protection of the shoreline and filters for various land runoffs. A strip of marshland adjacent to the Rappahannock River, south of West Street is the home for numerous turtles, therefore it has been designated as a conservation area to preserve this habitat.

Conservation areas are to be preserved from fill or development due to their environmental significance. These vulnerable areas also require consideration of adjacent development to determine if the development processes or subsequent activity will be harmful to the marshlands.

### Historic Preservation

The Old Tobacco Warehouse, Landsdown, and the Women's Club Building (formerly Urbanna Courthouse), the Custom's House, the Tavern and Montague's Office are historic landmarks also recognized by the County and the Town. All of these historic sites are designated on the Comprehensive Plan Map for historic preservation. The Town has established a historic district and a corresponding review board in an effort of mitigate activities which would destroy the historic character of these properties. Whenever possible and appropriate the Town should attempt to provide assistance to property owners in obtaining historic easements. This would insure their preservation and/or improve buildings in the historic district to more accurately portray the historic atmosphere.

### Residential

The majority of the Town is and shall continue to be single family residences on individual lots. With the availability of central water and sewer facilities, high density residential development is well provided. Additional residential development is to be encouraged in

order to most efficiently utilize facilities within the Town.

Apartments are available within the Town both in individual homes and multi-family rental units. Recent construction of two new condominium developments has served to expand the housing market within the Town.

Residential development has grown adjacent to the Town limits and will continue to grow due to the desirability of nearby services and facilities. Extension of water and sewer facilities to adjacent communities will not only provide additional housing sites and support for the commercial community, but promote the efficient operation of the central facilities themselves.

#### Commercial

The area currently occupied by commercial uses has been included along with additional area in the commercial designation. Urbanna, currently a commercial center in the County needs to increase its services as both the Town and County grows. Additional land has been provided along Virginia Street to accommodate growth within the near future and some off-street parking has been developed in the business district. Additional parking areas should be added to avoid congestion on the Town's streets as well as to foster a more pleasant atmosphere and appearance. As a further effort to encourage development the Town should promote cooperation among businesses in Urbanna in coordinating improvements of store fronts and advertisements toward the creation of an aesthetically pleasing business community.

#### Industrial

No new areas of industrial development have been designated within Urbanna. Inclusion of the operations at the end of Virginia Street on Urbanna Creek and the nearby industrial park should provide sufficient sites for industry to locate within or near Urbanna.

#### Recreation

The Town Park at Rappahannock Avenue and Bonner Street provides recreation for Town residents including swimming, basketball, tennis, and general play and picnicking facilities. This park should be adequate to serve the Town through the planning period for on-land activities. In Urbanna, as in the County, there is a need for public access to the water for the purpose of recreation. In Urbanna sites exist at the waterside ends of Rappahannock Avenue, Colorado Avenue and Virginia streets. Due to a lack of sufficient land area and steep topography the sites on Rappahannock Avenue and Colorado Avenue cannot be utilized for access to the water but are used for scenic viewing.

### Public Facilities

In addition to the Town Park, the Town also operates and maintains its own water and sewer facilities. Sewage treatment facilities located adjacent to the Town limits should remain adequate to serve existing Town residents but will need to be increased when further development occurs. The water system which operates from two wells is sufficient to serve its present customer base but may need to be increased as additional development occurs.

The Town Hall contains space sufficient for a limited expansion of services that may be needed in the future. The Town Police Department has recently obtained a new vehicle which is radio-equipped. In addition to the planned periodic replacement of this vehicle the Town may wish to consider expansion of its police department.

The rescue squad and fire department which is housed in Urbanna serves both the Town and outlying areas of the County. Because these units are located within the Town, service when needed is particularly prompt and efficient. When and if the facility must be expanded the present site contains sufficient space for that purpose.

Another public service within the Town is the U.S. Post Office located on Virginia Street. In view of the number of senior citizens residing in the Town the Postal Service should consider the implementation of home delivery service.

Solid waste disposal is a Town service which includes trash collection at residences, some street sweeping and disposal at the County landfill. Additional development within the Town may necessitate securing additional equipment for this operation at some future date.

Urbanna has no street maintenance or improvement responsibilities. Most roadways are state maintained while a few private lanes are maintained by the residents who use them. No roadway additions or improvements are anticipated within the six year planning period of the Virginia Department of Highways and Transportation. Additional commercial and residential development may require roadway improvement as they occur.

### Summary - Land Use Designations

The land use designations outlined in the previous plan (1977) have been examined and are considered to be valid for the purpose of this plan revision. Insofar as can be presently determined, sufficient land has been designated for all uses with the possible exception of commercial and industrial. The current designations recognize existing uses but do not appear to be sufficient for expansion or to provide for accelerated development of commercial centers at other locations around the County.

The following table has been reproduced from the 1977 Comprehensive Plan for several reasons. First, as was noted previously, the designations are basically current. Secondly, until such time as a new Comprehensive Plan Map is developed it is important that this information be preserved. Ideally it should be maintained in a "working" document. Further, there are several research and mapping projects presently being conducted by State and Federal agencies which when completed should produce data with a level of accuracy much greater than in the past. The VirGIS Project being carried out by Virginia Polytechnic Institute and State University and the DRASTIC mapping by the National Well Water Association are two such examples.

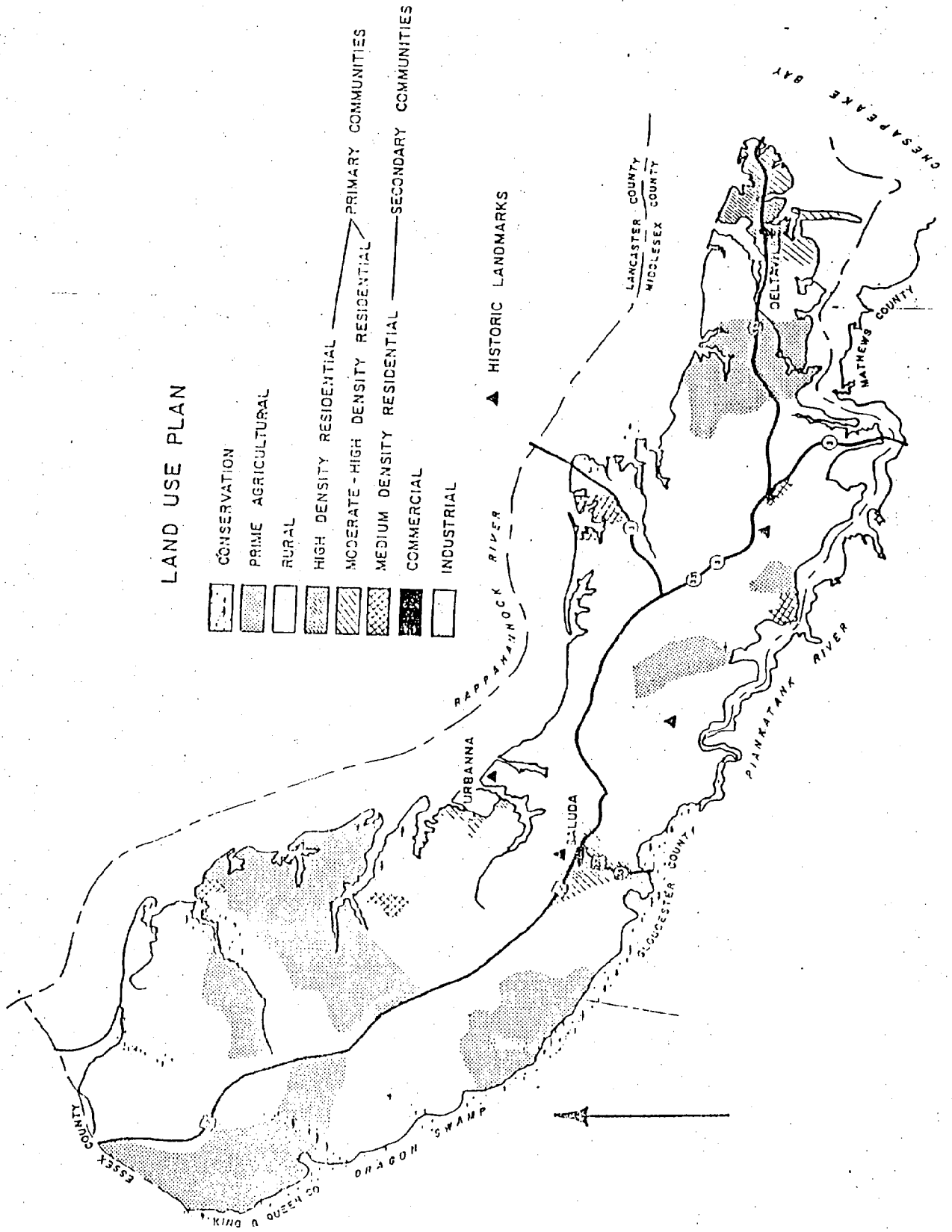
TABLE 37  
Proposed Land Use - 1995

<u>Use Category</u>	<u>Acres</u>
Rural-Residences, Recreation, Open Space	59,400
Prime Agricultural and Forestry	20,550
Residential-Primary Communities-High Density	1,650
Moderate Density	1,725
Secondary Communities	1,050
Commercial and Industrial	100
Total	84,475

Source: Middlesex County Comprehensive Map  
(approximate gross acreage computations)

It is important to note that the land use plan is in keeping with the stated goals and objectives of the County and as such has generally allocated land sufficient to carry them out.

Figure 2



## Chapter 11

### The Transportation Plan

Transportation within Middlesex County presently includes roadways, water, and air transportation facilities. There are currently no plans for provision of railway services, however, the present facilities must be maintained and expanded as necessary.

The roadway plan has two (2) interrelated goals: (1) provision of adequate roads throughout the county; and (2) organizing the roadways into a system that classifies them according to their function. The Virginia Department of Transportation has assigned a functional classification system to the roadways in Middlesex County for the year 1990. This classification, shown in Figure 1, indicates the importance of certain primary and secondary roadways in Middlesex County.

Principal arterials are designed to link urban areas with towns or major localities throughout the state. These provide interstate and intercounty travel relatively uninterrupted. Middlesex County's principal arterial is Route 17 to the Saluda Bypass and Route 17/33 from the Saluda Bypass to the Gloucester County line. Minor arterials are Business Route 17 leading into Saluda, Route 33 from Saluda Bypass to Hartfield, and Route 3 from the Greys Point Bridge to the Piankatank River Bridge. The portion of Route 17 running through Middlesex is four (4) lanes; Route 33 is four lanes from Saluda to Cook's Corner.

The Virginia Department of Transportation has published a report entitled "Route 3 Corridor Study". It is a comprehensive assessment of the immediate and future improvements needed on the Route 3 Corridor. Roadway sections in need of reconstruction or rehabilitation have been identified and prioritized by a study team. The prioritization reflects the importance of each improvement to the overall corridor. Included is a recommendation for a possible relocation of Route 33 from Route 17 at Glens to Route 3 at Harmony Village. In addition to the "Route 3 Corridor Study" future improvements should include the construction of dual lanes for Route 33 from Cook's Corner to Harmony Village.

Major collectors serve to connect the locally important travel generators such as population concentrations and to link these areas to the arterials. These serve important intra-county travel needs. Many of

the secondary roads reaching from the County's extremities to Route 17, 33, and 3 are included as major collectors. Route 227 will continue to carry the bulk of the Urbanna travel and will also necessitate widening and realignment. Routes 629, 630, and 636 are shown as major collectors and are identified for improvements in alignment and surfacing within this planning period by the Six-Year Plan of the Department of Transportation. Additions to the secondary roadway system will be determined in conjunction with the Department of Transportation on an annual basis.

Access from those roadways designated as principal and minor arterials should be limited. Access roads should be utilized wherever possible in reaching individual residences and businesses along these arterials. Future development should be located sufficient distance from the arterial as to allow safe and orderly ingress and egress. Development along all other roadways should be of sufficient setback as to allow for future widening of the roadway and to prohibit roadway clutter and potential hazards.

#### Mass Transit

The problem of providing a mass transit system for residents of a rural community has challenged public administrators and planners for many years. Citizens of Middlesex would benefit substantially from a rural public transportation system which could offer travel services within the County and the Middle Peninsula region. In recent years numerous studies have been conducted around the country concerning rural mass transit systems. Based on these studies several systems have been established.

It is generally agreed that a significant data base in the area of rural mass transit has been established. It will be very beneficial to the County if during the upcoming planning cycle a survey of these data is completed and a report prepared for use by the County Planning Commission.

#### Waterways

Water has played an important role as a means of transportation of people and goods to and from Middlesex County since its inception. Primarily as a result of the tremendous expansion of the highway system the waterways of the County are not utilized as extensively as in the past for commercial purposes. Waterways now play a very important role in the area of recreation and tourism, an area of the local economy which has expanded rapidly in recent years.

## TRANSPORTATION PLAN

## PRIMARY ROADWAY IMPROVEMENTS

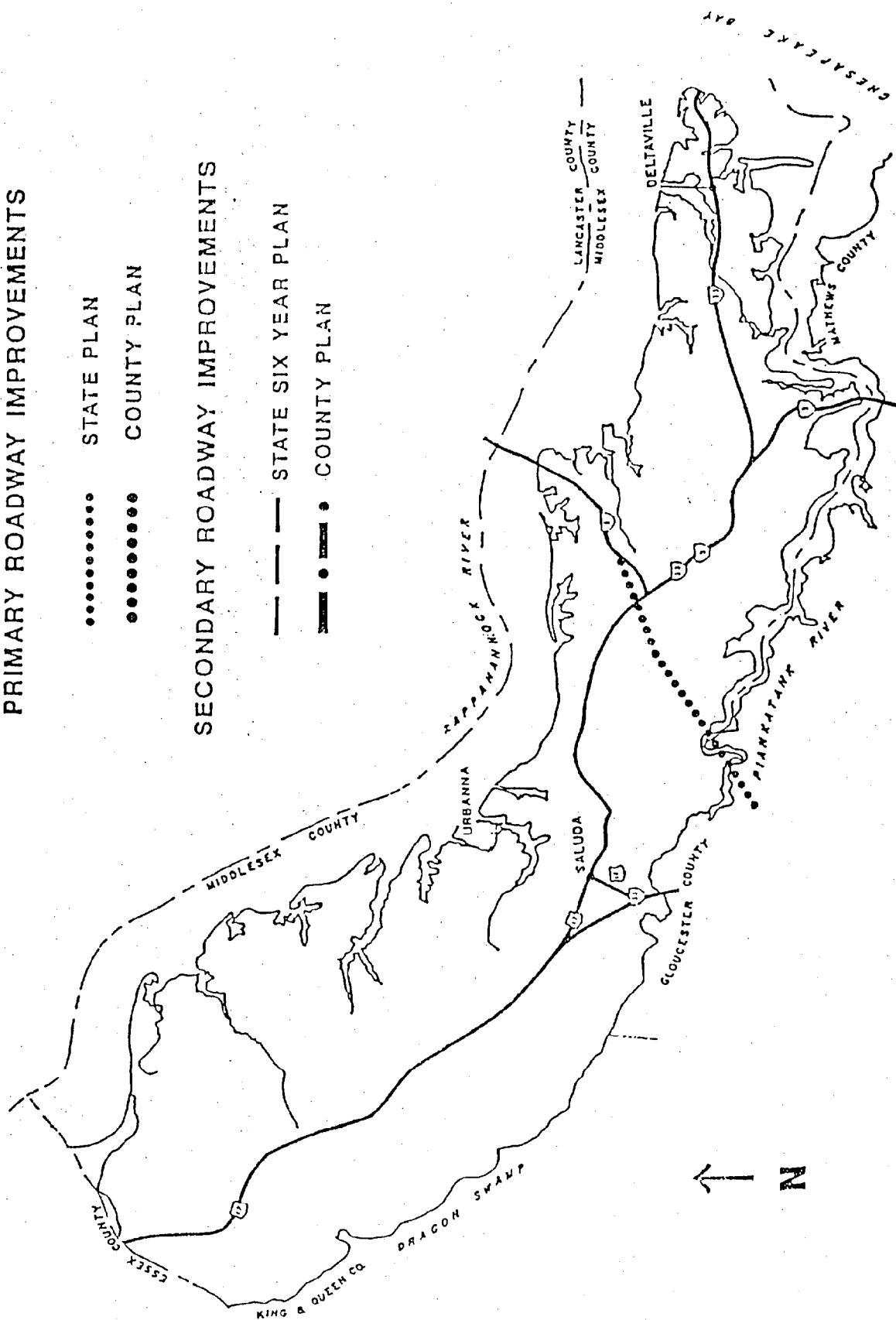
STATE PLAN

●●●●●●●● COUNTRY PLAN

## SECONDARY ROADWAY IMPROVEMENTS

— — — STATE SIX YEAR PLAN

**COUNTY PLAN**



# 1990 FUNCTIONAL ROADWAY CLASSIFICATION

## LEGEND

- PRINCIPAL ARTERIAL
- - - MINOR ARTERIAL
- · · · · MAJOR COLLECTOR
- · · · · MINOR COLLECTOR

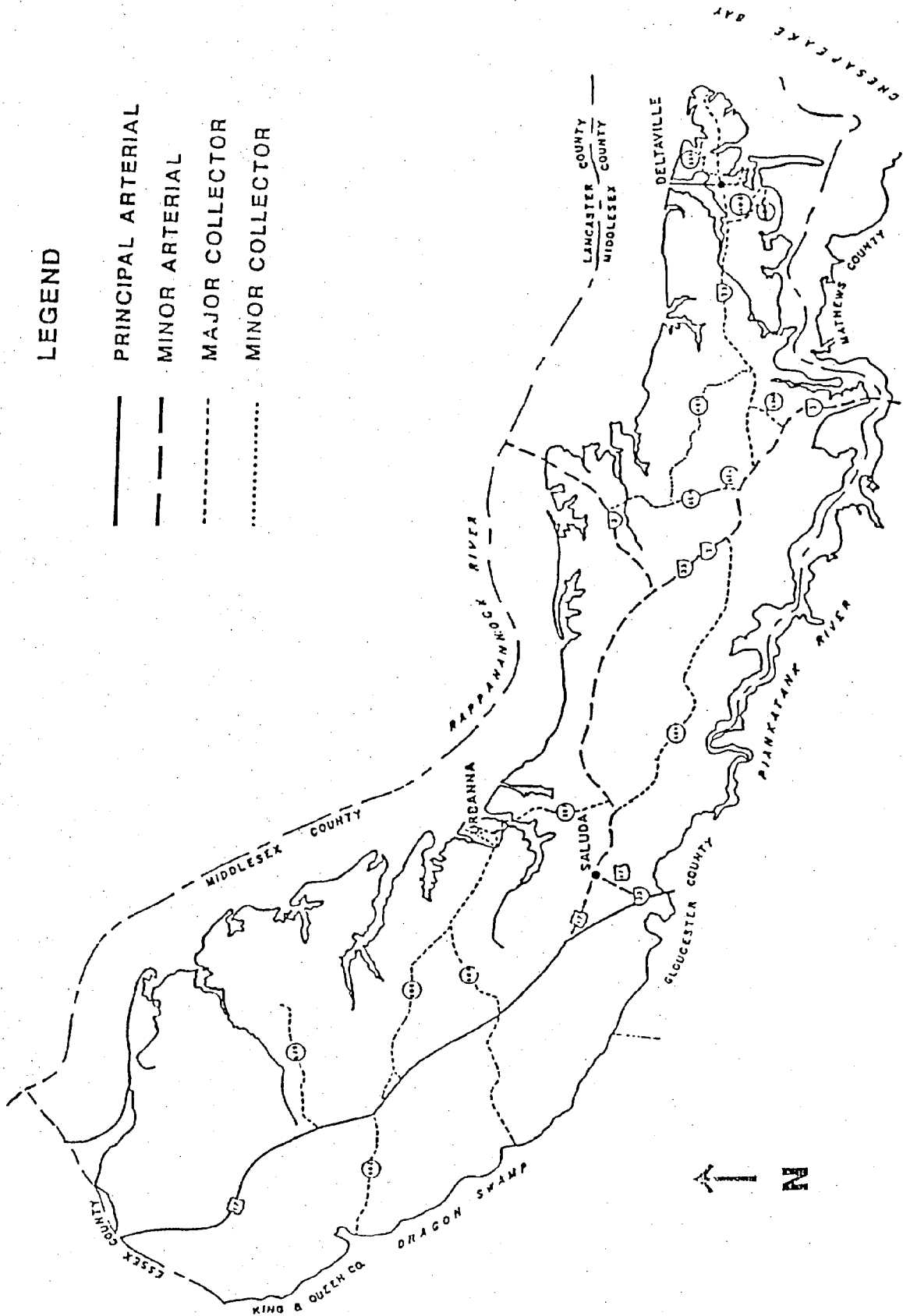


Figure 4

#### Air Service

Aware of the important role inadequate air transportation facilities can play in the development of an area, the Middlesex County Board of Supervisors established a special Airport Committee to serve in an advisory capacity and to guide and coordinate activities within the County that dealt with this activity. Industrial and residential development in the surrounding area have limited much potential Airport expansion. In May, 1982 an independent study published a list of possible airport relocation sites. In December, 1987, increased public inquiry has prompted the Airport Committee to reopen the issues of location, construction, and funding an expanded airport facility within the County.

## Chapter 12

### Public Facilities Plan

It is in the area of community facilities that the development of a comprehensive plan can potentially make one of its strongest contributions. Public facilities are extremely important elements of a community's living environment and impact significantly on the quality of life enjoyed by the residents. This impact occurs in two critical areas: first, the availability of the services themselves to the individual citizen and second, the positive impact of properly designed and located facilities such as water and sewer treatment on the environment.

There are several impending situations which will call for the construction of new public facilities or the refurbishing and expansion of existing structures to allow the County to respond to the demands of a growing population. The public office buildings in Saluda are at full capacity and place a constraint on the ability of the County to expand existing programs or to develop new ones. A new County office complex will permit the consolidation of several County offices currently situated at various locations around the area. Having these departments centrally located will contribute significantly to increased efficiency and communication. Sewage treatment facilities for the existing complex and expansion will be available as part of an agreement the County is making with the Regional Security Center.

The Middlesex Public Library facility, located in Urbanna, is also operating at maximum capacity. Expansion of the library within the existing facility is not possible nor is it feasible to expand the building given its historical significance. While the location of a branch library in the Deltaville community has relieved some of the pressure the need for a larger more modern facility at Urbanna is clearly evident.

One other facility which must be the object of future study and planning is the sanitary landfill located at Stormont. Initially, when the landfill was first developed it was considered to have "an indeterminate life-expectancy". The statement was made in a positive vein and was meant to imply the service-life of the facility was such that it would be adequate for many years.

In the intervening years since its construction several factors have combined which tend to cast a shadow

on the anticipated longevity of the facility. The growth in population has given rise to the amount of solid waste generated per household. This same population increase has stimulated the overall construction industry, which in turn has generated more solid waste. In addition, Middlesex County has grown tremendously in popularity as a vacation/recreation area. This activity adds considerably to the amount of waste to be processed.

The way in which solid waste is collected and transported to the disposal site is very important. This function is especially important should the County wish to participate in a regional system which might entail longer hauling distances. The nature of waste collection and disposal is such that the system employed is especially sensitive to methods which improve efficiency.

Concurrently, regulations which govern the operation of a landfill have become increasingly stringent. To date the County has been able to operate the landfill in an efficient manner and to satisfactorily pass the periodic inspections. However, it is when a new landfill is needed that the full force of the regulations as they impact on costs, will be felt.

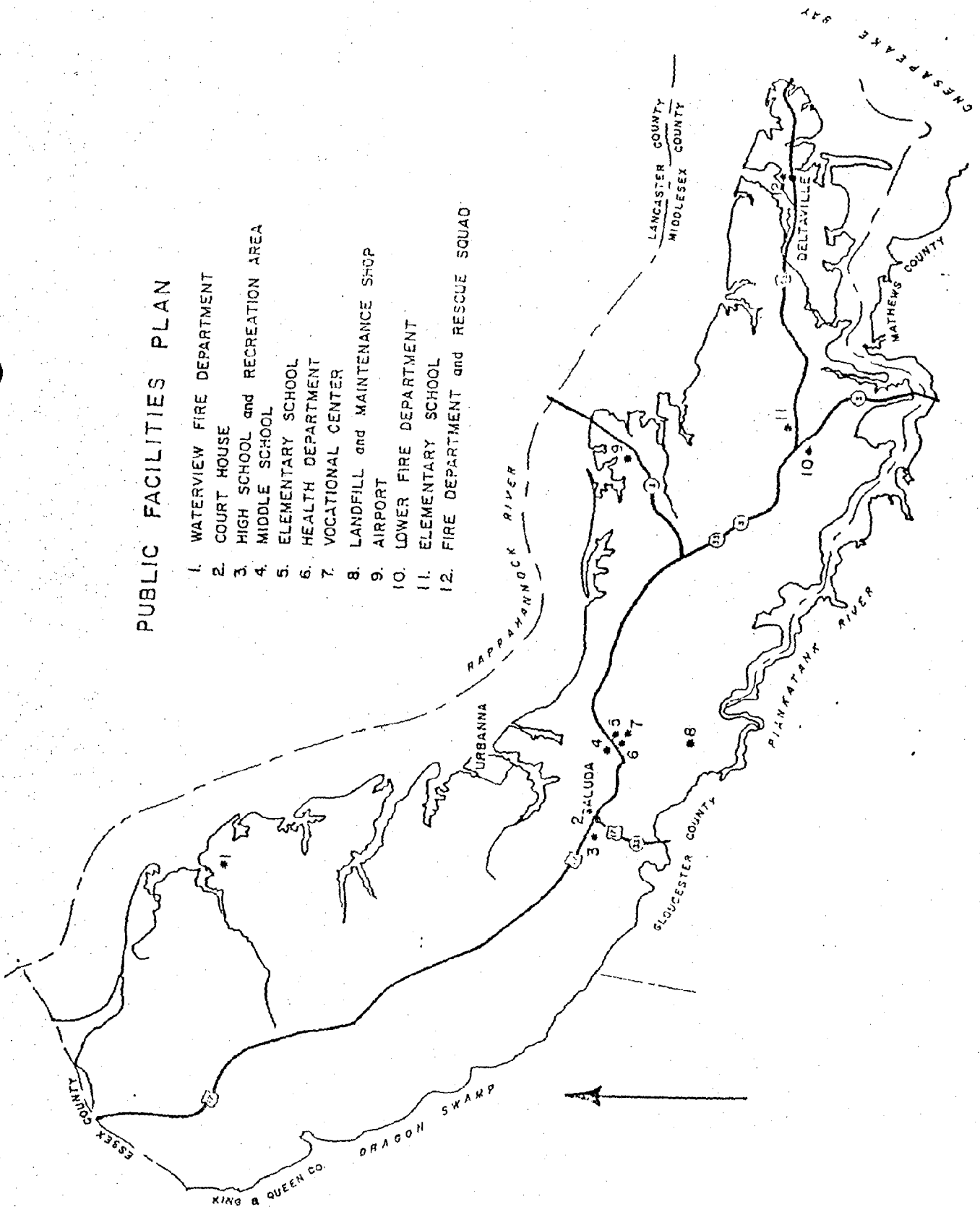
The projects described in the forgoing paragraphs are mentioned primarily because the need is easily identified but the list can be extended considerably. However, to simply compile a list of "needs" would serve little purpose. To be effective the need for each project must be thoroughly investigated and, based on predetermined criteria, assigned a priority ranking. Once a project is identified and given a priority rating all possible funding sources must be identified. In short, as has already been stated in Chapter 8, Issues Identified for Planning, it is very important that the Capital Improvement Program be further developed for the County.

The Middlesex County School Board approved in November, 1987 a Five Year Capital Improvement Plan that will serve to guide investments through 1992.

Figure 5

# PUBLIC FACILITIES PLAN

1. WATERVIEW FIRE DEPARTMENT
2. COURT HOUSE
3. HIGH SCHOOL and RECREATION AREA
4. MIDDLE SCHOOL
5. ELEMENTARY SCHOOL
6. HEALTH DEPARTMENT
7. VOCATIONAL CENTER
8. LANDFILL and MAINTENANCE SHOP
9. AIRPORT
10. LOWER FIRE DEPARTMENT
11. ELEMENTARY SCHOOL
12. FIRE DEPARTMENT and RESCUE SQUAD



## Chapter 13

### Methods To Implement Plan

Within recent years the Middlesex County Board of Supervisors has voted approval of several ordinances which are valuable tools for implementing the Comprehensive Plan. A general description of each is provided in the following pages. For a more detailed reading or examination copies of each of the documents are available, for a modest charge, from the Zoning Office.

#### Zoning Ordinance

In March of 1985 the Middlesex County Board of Supervisors approved an ordinance entitled the Middlesex County Zoning Ordinance. The ordinance established and divided the unincorporated territory of the County into designated districts and set forth the language describing the uses which could be made of the land and structures contained within each district. The Town of Urbanna, the County's only incorporated area, administers its own zoning ordinance.

Initially, the ordinance delineated ten districts within the County but later revisions added two more. In addition to establishing specific rules and regulations concerning land use the ordinance contains a number of general provisions which underscore the purpose and intent of the Middlesex County Comprehensive Plan.

The provisions are:

To provide for adequate light, air, convenience of access, and safety from fire, flood and other dangers;

To reduce or prevent congestion in the public streets;

To facilitate the creation of a convenient, attractive and harmonious community;

To facilitate the provision of adequate police and fire protection, disaster evacuation, civil defense, transportation, water, sewerage, flood protection, schools, parks, forests, playgrounds, recreational facilities, airports, and other public requirements;

To protect against destruction of or encroachment upon historic areas;

To protect against one or more of the following:  
overcrowding of land, undue density of population in

relation to the community facilities existing on available, obstruction of light and air, danger and congestion in travel and transportation, or loss of life, health, or property from fire, flood, panic or other dangers;

To encourage economic development and enlarge the tax base.

An official zoning map on which the location and boundaries of the zoning districts are indicated has been developed and is located in the Office of the Zoning Administrator. In addition, a Comprehensive Land Use Map, developed in 1977 and currently being updated, is on display in the Boardroom of the Woodward Building.

A brief discussion centering essentially on the intent of each of the zoning districts follows.

#### Conservation District

The purpose of this district is to protect and conserve the fragile natural resource areas in the County which in their natural state perform valuable functions. Generally, these areas are considered unsuitable for development or intense use. Areas receiving this designation generally include wetlands and swamps. Areas which are important for flood control, aquifer recharge, water storage, critical wildlife habitat, or similar functions may also be designated.

#### Resource Husbandry District

It is the purpose of the Resource Husbandry District to conserve and protect from competing or incompatible uses those large tracts of land which have traditionally functioned as agricultural and forestry uses and which are by virtue of soil, topographic, and other natural conditions especially well suited for such purposes.

Perhaps nowhere else in the Zoning Ordinance is the extent of a given district so clearly articulated. The following is quoted verbatim:

"The protection of large agricultural and forestry tracts is necessary to promote the general health and welfare of the County by insuring that valuable natural resources such as timber and fertile farmlands are properly managed and preserved for both beneficial environmental effect present and future generations. To this end, the "RH" District is intended to be occupied and used almost exclusively by large-scale agricultural and forestry uses and to provide areas in which these uses may be freely and

intensively conducted with minimum potential for conflict with or competition from incompatible uses".

#### Low Density Rural District

Stated throughout the goals and objectives as well as the text of the Comprehensive Plan is the desire for the County to remain in its predominately rural state. The establishment of a Low Density Rural District is intended to provide an efficient tool or mechanism to assist in achieving a low density mixture of primary uses. Included are; agriculture, forestry, secondary residential, recreational and selected commercial and public or quasi-public uses that are regarded as "non-intensive". The major portion of the land area of Middlesex County has been assigned this designation.

#### Village Community District

In keeping with the goal to have the County maintain a predominately rural character, existing communities demonstrating a potential for future growth have been given this designation. Concentration of growth in and around these communities should produce an area which is small clearly defined and contains a "low to moderate density mixture of residential, low-intensity commercial, and other community service uses." It is also felt that the County will be aided in its objective of promoting cluster development and thereby avoiding "strip development" with all the inherent problems.

#### Residential District

By designating residential districts the County is again demonstrating its desire to maintain a predominately rural character. Areas within the County have been set aside in which a variety of compatible housing uses may locate. In creating the districts Middlesex is expressing its intent to encourage residential uses to locate in them, thereby preserving agricultural and forest land as well as minimizing strip residential development. Flexibility has been built into the rules which govern the uses of the land to enable adaptation to devise areas such as isolated waterfront areas as well as areas lying adjacent to built-up communities.

#### Cluster Development District

Noted in the Goals and Objectives Section of the Middlesex County Comprehensive Plan and in subsequent chapters is the intent to foster development of communities that are both attractive and functional while at the same time conserve land. Here again the regulations which govern the use of the land have been designed to provide for greater open space. At the same time such requirements as lot size, setback, and yard size requirements as compared to the traditional residential zone have been relaxed. Cluster development provides an especially

efficient mechanism for providing amenities such as open space, public utilities, and attractive surroundings while simultaneously regulating density.

#### Waterfront Commercial District

A significant portion of the economic activity of Middlesex County can be attributed to water related functions. Designating areas as Waterfront Commercial Districts is an effort by the County to insure that sufficient space is available for commercial activities that either require waterfront locations or are enhanced by such locations. Many of the commercial activities that are water oriented have special requirements concerning such things as physical design, layout, as well as special supporting facilities and services. To add additional strength to the concept of a special district the requirements have been designed so that uses which do not require a waterfront location, or that do not complement those uses which do require waterfront location, are not permitted.

#### General Business District

Both the need for and the lack of adequate shopping facilities in Middlesex County were discussed earlier in this Plan. Of equal concern is the desire and intent to have these services and facilities provided in an efficient and rational manner. Inherent in this classification is the desire to have the County retain to the maximum extent possible its rural character. By designating General Business Districts the intent is to provide areas in which commercial and compatible uses may concentrate and yet not be in conflict with residential, agricultural, and other similar uses.

#### Light Industrial District

A stated objective of the Comprehensive Plan is the desire to attract to the County light industries of a non-polluting nature and which do not use large quantities of groundwater. By couching the objective in these terms the plan recognizes and acknowledges two very important factors: first, Middlesex County is geographically situated in such a way that the potential for polluting the Chesapeake Bay and its tributaries is significant; second, the County must protect and conserve its groundwater resources. In general, regulations concerning this district and the uses permitted within it are designed to minimize impacts on surrounding areas.

#### Mobile Home District

The need for moderately priced housing is recognized in the Middlesex County Comprehensive Plan. Mobile homes can often satisfy a portion of the demand in this market area and the creation of the Mobile Home District is an attempt to accommodate County residents by providing areas

in which mobile home park communities may locate while at the same time maintaining compatibility with surrounding uses. The regulations for this district have been designed to produce communities that are both attractive and functional and are consistent with the intent and purpose of the Zoning Ordinance and the Comprehensive Plan.

#### Airport District

The purpose of this district is to safe guard the interests of the County and the taxpayer insofar as those interests coincide with those involving the management of the County Airport. Basically, the Airport District will be administered as an "Overlay" district superimposed over one of the primary districts. The Airport District imposes regulations and restrictions in addition to those imposed by the primary district.

The height of a structure or that of an object of natural growth can be of critical importance to the operation of an airport. Therefore, the basic intent of the regulations which govern the Administration of the Airport District is to regulate and restrict the height of those structures and natural objects and to regulate the use of property in the vicinity of the airport. To insure efficient and effective management the ordinance creates appropriate zones and establishes the boundaries and defines their uses.

#### Site Plans

The rules and regulations governing the submission, review and approval of site plans are set forth in Article 17A of the Middlesex County Zoning Ordinance. In general this article requires that site plans for certain projects, also identified in the article, be submitted for review to insure conformance with existing laws and ordinances and further that they are in harmony with the Middlesex County Comprehensive Plan.

#### Subdivision Ordinance

The process by which a parcel of undeveloped land is laid out into lots, blocks, streets, public areas and other uses is regulated by the Subdivision Ordinance. The ordinance for Middlesex County was adopted on 17 December 1979 and has since been amended on four occasions, the last Amendment occurring in 1983.

It is essential that the regulations set forth in the Subdivision Ordinance be compatible with the Goals and Objectives as outlined in the Comprehensive Plan and the policies contained in the Land Use element of the Plan. It

is therefore recommended that during the ensuing planning cycle the ordinance be thoroughly reviewed.

#### Erosion and Sedimentation Control

On May 4, 1982 Middlesex County adopted an Erosion and Sedimentation Control Ordinance. Through this ordinance, those developments and other activities which disturb the earth are reviewed and monitored to insure that sedimentation is minimized and erosion is prevented both along the shoreline and on land in the interiors of the County. Changes made in the State Code in the last legislative session should be incorporated in the County ordinance. Additional procedures for monitoring and enforcement should also be included.

#### Wetlands Management

The Wetlands Act was enacted in 1972 and can be found in Laws of Virginia Relating to the Marine Resources of the Commonwealth. The Act, which defines wetlands as both vegetated and non-vegetated wetlands, establishes a local-state management program for these areas.

To ensure proper management, the Wetlands Act establishes a permit program and authorizes the creation of a local Wetlands Board to administer it. The Middlesex County Wetlands Board was established by County ordinance effective January 1, 1983. The goal of this Board is to "preserve the wetlands and to prevent their despoliation and destruction and to accomodate necessary economic development in a manner consistent with wetlands preservation."

#### Housing and Building Codes

Housing and building codes are combined into the Uniform Statewide Building Code and consist of the following: CABO One and Two Family Dwelling Code, The BOCA National Building Code, The National Electrical Code, The BOCA National Plumbing Code, The BOCA National Mechanical Code, and The Amusement Devise Regulations. These codes are designed to protect the health, safety, and general welfare of the residents of the County by providing minimum standards for all types of structures. The Uniform Statewide Building Code is enforced through the Office of the Building Official. However, the County may wish to consider adoption of the Maintenance Code Part II and the Statewide Fire Prevention Code which would allow for the

inspection and regulation of structures to insure safe and sanitary conditions in housing throughout the County.

#### Governmental Programs

During the last several years considerable change has occurred in the area of government programs. Austerity practices with regard to spending have resulted in programs being severely reduced or eliminated altogether. However, a number of programs are available and can be utilized to implement portions of the Comprehensive Plan. As an example, the Housing Rehabilitation Program recommended in Chapter B might well be approved for funding under programs administered by the Virginia Department of Housing and Community Development.

As an alternative to attempting to list all of the programs that might be available for use by the County a more efficient alternative might be to establish a list of program needs, set priorities and then investigate possible funding sources.

#### Capital Improvements Program

A Capital Improvements Program is a very important tool for implementing the Comprehensive Plan. It lists the public projects identified in the plan as appropriate investments for the community and provides such information as; construction costs, funding sources, and a proposed budget period.

Several years ago Middlesex County adopted a Capital Improvements Program to be included as a separate item in the County budget. The need to expand the function of the current program is clearly recognized and has been established as a part of the work program for the upcoming planning cycle.

## APPENDIX

### Predominant Soil Associations

#### Suffolk-Eunola-Remlik

Deep, well-drained and moderately well-drained, nearly level to very steep soils that have a dominantly loamy subsoil; at an elevation of mostly twenty to fifty feet above sea level.

This unit makes up about twenty percent (20%) of the County. It is on broad ridges, side slopes, and some upland flats on the Yorktown Terrace. Slopes commonly range from zero to fifteen percent (0 to 15%). Along larger drainageways and streams, the slope range increases to as much as forty-five percent (45%) in places.

The Suffolk soils make up about seventy percent (70%) of this unit. They are well-drained and have a surface layer generally of dark yellowish-brown fine sandy loam. The subsoil mostly is brown fine sandy loam and sandy clay loam, and the substratum is brownish-yellow loamy sand and pale brown fine sand. The Suffolk soils are on broad, nearly level ridges and very steep side slopes. Slopes range from zero to forty-five percent (0 to 45%).

The Eunola soils make up about eleven percent (11%) of this unit. They are moderately well-drained and have a surface layer generally of brown loam. The subsoil is yellowish-brown loam in the upper part and mostly mottled brown clay loam, sandy clay loam, and sandy loam in the lower part. The substratum is mottled brown loamy sand and sand. The Eunola soils are mainly on broad flats and at the head of drainageways. Slopes range from zero to two percent (0 to 2%).

The Remlik soils make up about eight percent (8%) of this unit. They are well-drained and have a thick, grayish-brown and yellowish-brown surface layer of loamy sand. The subsoil is strong brown sandy loam and sandy clay loam, and the substratum is brownish-yellow loamy fine sand. Slopes range mainly from six to forty-five percent (6 to 45%).

Soils of minor extent make up about eleven percent (11%) of this unit. They are: somewhat excessively-drained Catpoint soils, well-drained Rumford soils, moderately well-drained Nansemond soils, poorly-drained Myatt, Bibb,

and Kinston soils, and very poorly-drained Pocaty soils. The Catpoint, Rumford, and Nansemond soils are mostly on broad ridges. The Myatt soils are on broad flats and in slight depressions. The Bibb, Kinston, and Pocaty soils are on stream bottoms or adjacent to brackish water.

#### Slagle-Ackwater-Craven

Deep, moderately well-drained, nearly level or gently sloping soils that have a dominantly loamy or clayey subsoil; at an elevation mostly of twenty to fifty feet above sea level.

This unit makes up about six percent (6%) of the County. It is on broad flats and side slopes of the Yorktown Terrace. Slopes commonly range from zero to six percent (0 to 6%).

The Slagle soils make up about thirty-five percent (35%) of this unit. They generally have a surface layer of grayish-brown silt loam. The subsoil is pale brown silt loam in the upper part and mottled brown and gray loam in the lower part. Slopes range mostly from zero to six percent (0 to 6%).

The Ackwater soils make up about twenty-two percent (22%) of this unit. They have a surface layer generally of yellowish-brown silt loam. The subsoil is yellowish-brown clay loam in the upper part; mottled yellowish-brown clay loam and clay and brownish-yellow clay in the middle part; and mottled gray clay in the lower part. The Ackwater soils are on broad upland terraces that have slopes of zero to two percent (0 to 2%).

The Craven soils make up about eighteen percent (18%) of this unit. They have a surface layer commonly of brown silt loam. The subsoil mostly is yellowish-brown silty clay loam and clay in the upper part; mottled yellowish-brown clay in the middle part; and mottled gray sandy clay loam in the lower part. The substratum mostly is gray and brown sandy loam. Slopes range mostly from zero to six percent (0 to 6%).

Soils of minor extent make up about twenty-five percent (25%) of this unit. They are: well-drained Emporia soils; moderately well-drained Eunola and Nevarc soils; poorly-drained Bethera, Bibb, Kinston, and Daleville soils; and very poorly-drained Pocaty soils. The Eunola soils are on nearly level areas, and the Emporia and Nevarc soils are on steep side slopes. The Bethera and Daleville soils are on broad flats and at the head of drainageways. The Bibb, Kinston, and Pocaty soils are on stream bottoms or near areas of brackish water.

#### Kempsville-Suffolk-Kinston

Deep, well-drained and poorly-drained, nearly level to very steep soils that have a dominantly loamy subsoil or substratum; at an elevation of mainly more than fifty feet above sea level.

This unit makes up about twenty-seven percent (27%) of the County. It is on broad ridges, gently sloping to very steep side slopes, and narrow stream bottoms. Slopes commonly range from zero to six percent (0 to 6%) but are as much as forty-five percent (45%) in places along larger drainageways and streams.

The Kempsville soils make up about forty-one percent (41%) of this unit. They are well-drained and have a surface layer of brown sandy loam. The subsoil mostly is strong brown sandy clay loam and sandy loam in the upper part and yellowish-red sandy clay loam in the lower part. Kempsville soils are mostly on broad ridges that have slopes of zero to six percent (0 to 6%).

The Suffolk soils make up about nine percent (9%) of this unit. They are well-drained and have a surface layer of dark yellowish-brown fine sandy loam. The subsoil mostly is brown fine sandy loam and sandy clay loam, and the substratum is brownish-yellow loamy sand and pale brown fine sand. The Suffolk soils are mostly along large drainageways and streams. In most places they are intermingled with Remlik soils. Slopes range from six to forty-five percent (6 to 45%).

The Kinston soils make up about five percent (5%) of this unit. They are poorly-drained and have a surface layer of brown loam. The substratum is dark grayish-brown clay loam in the upper part and gray sandy clay loam and sandy loam in the lower part. The Kinston soils are intermingled with Bibb soils on stream bottoms. Slopes range from zero to two percent (0 to 2%).

Soils of minor extent make up about forty-five percent (45%) of this unit. They are: well-drained Emporia and Suffolk soils, moderately well-drained Eunola and Slagle soils, and poorly-drained Myatt and Bibb soils. The Emporia and Suffolk soils are on ridges and side slopes. Eunola, Slagle, and Myatt soils are on slightly lower areas and in slight depressions. The Bibb soils are intermingled with Kinston soils on stream bottoms.

#### Emporia-Slagle-Nearc

Deep, well-drained and moderately well-drained, nearly level to very steep soils that have a dominantly loamy or clayey subsoil; at an elevation of mainly more than fifty feet above sea level.

This unit makes up about forty-one percent (41%) of the County. It is on narrow ridges, side slopes, and upland flats. Slopes commonly range from zero to six percent (0 to 6%) but are as much as forty-five percent (45%) in areas along larger drainageways and streams.

The Emporia soils make up about forty-one percent (41%) of this unit. They are well-drained and mainly have a surface layer of dark grayish-brown loam. The subsoil is yellowish-brown loam and clay loam in the upper part and mottled yellowish-brown loam, clay loam, and sandy clay loam in the lower part. The substratum is mottled yellowish-red sandy clay loam. The Emporia soils are dominantly on broad ridges. Slopes range mainly from zero to six percent (0 to 6%), but the Emporia soils are intermingled with Nevarc soils on slopes of as much as forty-five percent (45%).

The Slagle soils make up about twenty-three percent (23%) of this unit. They are moderately well-drained and commonly have a surface layer of grayish-brown silt loam. The subsoil is pale brown silt loam in the upper part; mottled brown loam in the middle part; and mottled gray loam in the lower part. The soils are mostly on uplands with slopes of zero to six percent (0 to 6%).

The Nevarc soils make up about eight percent (8%) of the unit. They are moderately well-drained and commonly have a surface layer of grayish-brown silt loam and pale brown loam. The subsoil mostly is yellowish-brown clay loam in the upper part and mottled strong brown clay in the lower part. The substratum is mottled gray clay and mottled brown sandy clay loam. The Nevarc soils are intermingled with Emporia soils on side slopes along large drainageways and streams. Slopes range from six to forty-five percent (6 to 45%).

Soils of minor extent make up about twenty-eight percent (28%) of this unit. They are: well-drained Kempsville and Suffolk soils and poorly-drained Bethera, Bibb, Kinston, and Daleville soils. The Kempsville and Suffolk soils are intermingled on ridges. The Bethera and Daleville soils are on large flats and in slight depressions. The Bibb and Kinston soils are on stream bottoms.

#### Pocaty-Kinston-Bibb

Deep, very poorly-drained and poorly-drained, nearly level soils that are flooded by freshwater or brackish water and that have an organic or loamy substratum; at an elevation of mainly less than twenty feet above sea level.

This unit makes up about four percent (4%) of the County. It is mostly along Dragon Run, at the mouth of the

Piankatank River, and along numerous smaller stream bottoms. The areas are known locally as "freshwater swamps" and "low saltwater marshes".

The Pocaty soils make up about thirty-nine percent (39%) of the unit. They are very poorly-drained, organic soils that usually are flooded twice daily by brackish water. The Pocaty soils have a surface layer and subsurface layer of black muck.

The Kinston and Bibb soils are poorly-drained and are on stream bottoms and flood plains that are flooded with freshwater. Together they make up about fifty-seven percent (57%) of this unit. The Kinston soils commonly have a surface layer of brown loam and a substratum that is dark grayish-brown clay loam in the upper part and gray sandy clay loam and sandy loam in the lower part. The Bibb soils have a surface layer of dark grayish-brown sandy loam. The substratum is gray sandy loam and fine sandy loam in the upper part and gray loamy sand and sand in the lower part.

Soils of minor extent, mainly well-drained Ochlockonee soils, make up about four percent (4%) of this unit. They are in intermittent drainageways.

#### Myatt-Eunola-Lumbee

Deep, poorly-drained and moderately well-drained, nearly level soils that have a dominantly loamy subsoil; at an elevation of mainly less than twenty feet above sea level.

This unit makes up about two percent (2%) of the County. It is mostly on the broad, low flat called Stingray Point.

The Myatt soils make up about thirty-seven percent (37%) of the unit. They are poorly-drained and have a surface layer of dark grayish-brown and light grayish-brown loam. The subsoil mostly is mottled gray clay loam, sandy clay loam, and fine sandy loam. The substratum is gray loamy fine sand. The Myatt soils are on flats.

The Eunola soils make up about twenty-nine percent (29%) of the unit. They are moderately well-drained and have a surface layer commonly of brown loam. The subsoil is yellowish-brown loam in the upper part and is mostly mottled brown clay loam, sandy clay loam, and sandy loam in the lower part. The substratum is mottled brown loamy sand and sand. The Eunola soils are mainly on slightly higher areas adjacent to open water and drainageways.

The Lumbee soils make up about twenty percent (20%) of the unit. They are poorly-drained and have a surface

layer mainly of gray and light brownish-gray silt loam. The subsoil mostly is mottled grayish-brown silt loam in the upper part and mottled gray loam and sandy loam in the lower part. The substratum mostly is mottled gray sand. The Lumbee soils are on flats that extend to the water's edge in many places.

Soils of minor extent make up about fourteen percent (14%) of this unit. They are: moderately well-drained Nansemond soils, moderately well-drained somewhat poorly-drained Pactolus soils, and very poorly-drained Pocaty soils. The Nansemond and Pactolus soils are mostly on slightly higher areas adjacent to open water. The Pocaty soils are in small marshes.

Source: U.S. Soil Conservation Service Soil Survey  
of Middlesex County, Virginia

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